APPENDIX E
CORRESPONDENCE

R6-501

Southwest Environmental Center

A VOICE FOR THE ENVIRONMENT IN SOUTHERN NEW MEXICO

OPTIONAL FORM 99 (7-90) As Requested 2/28/01

FAX TRANSMITTAL # of pages ▶ 1

To CARLOS VICTORIA	From DOUGLAS ECHLIN
Dept./Agency PARSONS ES - AUSTIN	Phone # 915/832-4741
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NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

February 21, 2001

Doug Echlin
U.S. Section, International Boundary and Water Com
4171 North Mesa, C-310
El Paso, TX 79902

Dear Mr. Echlin:

We appreciate the several opportunities provided by USIBWC and Parsons Engineering to provide feedback regarding the development of a draft Environmental Impact Statement for the Canalization Project. Based upon our limited knowledge of progress made thus far, and after consultation with our consultant, we have identified the following potential deficiencies in the process:

- Reliance on a hydraulic model (HEC-6) that may not be the best analytic tool available for undertaking a comprehensive analysis of floodplain dynamics, compared to other models that are available;
- The apparent lack of consideration given to instream flow needs, flood wave kinematics, design flood parameterization and other elements required for river restoration;
- The apparent failure to conduct hydraulic and cost-benefit analyses of alternatives besides the USIBWC preferred alternative No. 3.
- The application of a decision matrix that appears biased towards the preferred alternative.
- Initial selection of a preferred alternative without a completed biological opinion.
- A statistically invalid assessment of baseline fisheries status.
- An apparently incomplete assessment of ecological processes such as effects on nutrient cycling, primary production, and invertebrate species richness, etc.
- An apparent lack of integration with URGWOM.

These deficiencies may be more perceived than real. However, we have high expectations for the EIS process based upon written commitments made by USIBWC (Memorandum of Understanding signed with SWEC, March 22, 1999; Federal Register: August 17, 1999). It is our desire to assist USIBWC in developing the best possible document, and to avoid conflicts down the road.

Accordingly, we would like to request a meeting with you and the project team to discuss these concerns at your earliest convenience.

Sincerely,

Kevin Bixby
Executive Director

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RG-502

Southwest Environmental Center

A VOICE FOR THE ENVIRONMENT IN SOUTHERN NEW MEXICO

June 13, 2001

Douglas Echlin
U.S. International Boundary and Water Commission
4171 N. Mesa, Building C, Suite 310
El Paso, TX 79902

Dear Mr. Echlin:

We have studied the Final Alternatives Formulation Report ("report") for the Rio Grande Canalization Project ("project") and wish to congratulate you and the team from Parsons for the amount of work completed to date. This document provides an excellent start towards a useful analysis of alternatives to current operation and management of the Project.

However, we have a number of concerns about the report, as summarized below. In addition, our consultant has provided comments of a more technical nature, which are attached. We have other comments and questions, but these are the major ones. We apologize for not being able to comply with your request for written comments to be submitted in advance of our meeting on June 14, due to staff vacancies.

1. Non-structural alternatives to flood protection were not adequately analyzed. By the report's own admission, alternatives involving lands outside the IBWC right of way (i.e. alternatives #4 and #5) were not modeled hydraulically. We view this as a very serious deficiency which fatally biases the analysis away from such alternatives, and does not comply with the terms of the MOU.

2. It does not appear that much consideration was given to the condition of uplands within the watershed and the possibility of working cooperatively with other agencies and landowners to reduce sediment loading to the river. Was a list of BLM grazing allotments and their conditions compiled? Was BLM or NRCS approached to discuss measures to reduce erosion within the basin?

3. It does not appear that the feasibility of acquiring fee title or flood easements on lands adjacent to the IBWC ROW was given serious consideration. Was any effort made to talk to landowners to assess their needs or level of interest with respect to flood easements, or to compile a list of lands currently for sale along the river? We are personally aware of two large parcels adjacent to the river that are for sale right now, and there are surely others that we don't know about.

4. The selection of a preferred alternative before all the alternatives were modeled and analyzed was premature, and raises grave concerns about the objectivity of the process.

5. The decision process leading to selection of the preferred alternative relies on the assumption that environnmental enhancements equate with greater cost and reduced feasibility. In the absence of a thorough analysis and modeling of the alternatives this assumption is premature.

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13. We have a number of ecological concerns. For example, what consideration, if any, was given to providing habitat for benthic macroinvertebrates? Arroyo flows could provide the coarse materials needed by such species. What consideration, if any, was given to the effectiveness or appropriateness of instream structures such as rock groins and weirs intended to benefit fish? Which fish? It is our understanding that rock groins have proved to be relatively ineffective except to provide irrigation season resting areas for non-native predatory fish. What consideration was given to meeting the specific habitat needs of the southwestern willow flycatcher, yellow-billed cuckoo and interior least tern? Or of native fish that are present or could be reintroduced if appropriate habitat were available? What consideration was given to modifying the diversion dams to facilitate fish movement up and downstream? (And will the American Dam be included in this EIS or the Rectification Project EIS?)

We appreciate the degree to which we have been invited to provide feedback into development of the project EIS thus far. We look forward to continuing to work with you and the consultants to address these issues to ensure compliance with the Memorandum of Understanding signed by IBWC and Southwest Environmental Center, and with the spirit and letter of the National Environmental Policy Act.

Sincerely,

Kevin Bixby
Executive Director

cc: Kevin Craig
Mike Buntjer
Parsons Engineering

Attachment

Interim Report to the SW Environmental Center Concerning the United States Boundary and Water Commission (USIBWC) Rio Grande Canalization Project EIS – Caballo Reservoir to Ft. Quitman.

Prepared for the Southwest Environmental Center by Kevin Craig
May, 2001

Comments

The USIBWC Rio Grande Canalization Project (the Project) EIA process and associated studies are hindered by procedural and technical shortfalls. These appear largely due to underdeveloped inter-agency relationships and an unwillingness or inability to rigorously explore and objectively evaluate alternatives #4 and #5. These two alternatives are prematurely isolated from the evaluation process. We observe that limitations in the alternative #s 1-3exascerbate fragmentation of management / planning efforts in the greater Rio Grande Watershed. Without adequate remedy this places the agency in breach of National Environmental Policy (NEPA) Council of Environmental Quality (CEQ) regulations and the terms of the Memorandum of Understanding between the USIBWC and the SWEC,

Clearly the USIBWC has not yet developed a scientifically rigorous hydraulic model capable of evaluating critical aspects of alternatives 4 and 5. We conclude this based upon the inability of HEC – 2 and HEC-RAS to adequately simulate flow routing and attenuation associated with over-bank flooding. Improved hydraulic models exist and are in use by cooperating entities (the USCOE as example) but have not been utilized by the USIBWC contractor, nor specified by the lead agency.

- The National Environmental Policy Act (NEPA), B.2.6 Section 1501.6 Cooperating Agencies, b.3 provides for the development of information where the cooperating agency provides the lead agency with "special expertise".

While we feel that Parsons Science, Inc. has done an excellent job in confirming the USCOE 1996 study, we find the USCOE dataset is potentially out-of-date (due to channel form changes) and certainly limited by its narrow spatial extent. This dataset is unsuitable for comprehensive modeling of the wider floodplain without field truthing and supplemental survey. Wider cross-section surveys, a GIS based grid and two-dimensional numeric model are necessary to correct this oversight.

- B.3.24 Section 1502.24 Methodology and Scientific Accuracy specifies that the "scientific integrity…of the analysis" be maintained.

The US Army Corps of Engineers, who developed the HEC codes, have endorsed FLO2D, a flexible platform for modeling floodplain inundation and flow conditions. The Federal Emergency Management Agency (FEMA) and the USDI Bureau of Reclamation (BOR) have also endorsed the application of FLO2D. In application to the Middle Rio Grande River above Elephant Butte Reservoir and in numerous confirmations FLO2D models reveal the tendency of HEC-2 models to over-predict water surface elevations due to underestimation of flood attenuation. Mis-application of HEC codes to over-bank flood models thus results in excessive capital investments for unnecessary levee freeboard construction and skew O&M estimates in subsequent economic and feasibility analysis (Dr. Jim O'Brien, personal communication, FLO2D operation manual 2001).

Due to the limitations of HEC-2 we fail to see how the agency could specify its preferred alternative (#3) or exclude those it had not contracted to model.[1] These discrepancies are

[1] HEC-2 is limited to one dimensional analysis and cannot model dispersing flows.

significant in that they prejudice the identification of *affected areas*, selection matrices, economic and feasibility analysis and thus corrupt the "fatal flaw" analysis. *This approach has biased the selection of preferred alternative.*

Groundwater and surface water linkages are not adequately evaluated as would be expected of an ecologically sound investigation. The identification of hyporheic and transfluvial flows is highly relevant in the identification of nutrient exchange sites, water temperature regiems and primary productivity sites for autotrophic organisms and invertebrate. (Fischer and Grimm 199x).

Further, we question the use of hydrologic models without observance of uncertainty and risk associated with short period of records and high variation in hydrologic inputs. The model uses a Hec-1 design storm based upon an event of questionable probability, given high variance around the short period of record. Statistical confidence intervals should be stated and documented for risk assessment.

Hydrologic Uncertainty has been incorporated into USACOE hydrologic parameter uncertainty (frequency-curve parameter-specification error) towards the development of flood risk and expected damage assessments. Evaluation of this approach demonstrated that "the use of classical statistical ideas to incorporate uncertainty into the evaluation of Avg (AFP) results in a biased exceedance probability estimator and biased estimators of flood damages. Thus the use of the classical approach is not recommended" (National Research Council 1995).

It is suspect that Parsons Science Inc. may have utilized USACOE data in its analysis of channel hydraulics despite possible channel changes interim between the 1996 over flight and COE analysis and the 2000 derivation of cross-section inputs for the CP models[2].

The USACOE model does not evaluate flood hazards resulting from Elephant Butte Reservoir spills *combined* with local watershed flooding. This is a potential error of significance in the development of Design Flood parameters as spills persist despite extensive controls upstream.

The USIBWC has not addressed the viability (not to be confused with feasibility – to be addressed below) of Alternatives 4 and 5. This is most clearly demonstrated by the failure of the USIBWC to adequately contract the evaluation of hydraulic models capable of simulating overbank flow and flooding. [3]

- Council for Environmental Quality (CEQ) regulation and Appeals Court precedent insist that the agency generate and reasonably consider a suite of ***viable*** alternatives of action and no action (Clark 1998).

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[2] 1999 was a high release year. Changes in cross sectional area greater than approx. 10% will significantly alter results, including levee stress points (Obrien personal communication May 2001). .

[3] US Army Corps of Engineers Hydrologic Engineering Center (HEC)-models are one dimensional and poorly simulate flow dispersion over inundated floodplains and upwardly convex terrains. This is true of HEC-2, HEC-RAS and HEC-6 models. A two-dimensional model such as FLO2D is required to adequately model floodplain flows.

Watershed (ecosystem) restoration theory emphasizes headwaters to outlet approach. The cooperative agency and interdisciplinary planning efforts in the Rio Grande Basin appear inverted, with the downstream reaches under consideration for restoration or enhancement without upper basin planning and integration. Integration with watershed EIA processes both up and downstream should be a concurrent enterprise. This EIS should be expanded and integrated with the URGWOP and EIA efforts upstream. This is the intent of NEPA and clearly indicated by CEQ regulations . Consideration of the Rio in a fragmented non-comprehensive manner increases paperwork and taxpayer expenses – not to mention doing the ecosystem a tremendous disservice.

- We would draw the attention of the lead agency to *Seattle Audubon Society v. Lyons,* 871 F. Supp. 1291(W.D. Wash.1994) in which the court concludes: "Given the current condition of the forests, there is no way the agencies could comply with the environmental laws without planning on an ecosystem basis" and that "courts have repeatedly encouraged the Forest Service, the BLM, and the FWS to turn from disparate strategies for managing ...forests to a cooperative approach."

Identification of affected areas under each alternative cannot be accomplished without additional hydraulic modeling or GIS analysis. Lands suitable for flood easement under alternatives 4 and 5 cannot be evaluated by ROW or stream buffer Boolean intersection functions. Better evaluation methods are necessary.

- See "Affected Environment" B.3.15 Section 1502.15. and 1502.16 "Environmental Consequences".

Proposed artificially constructed wetlands have questionable merit in terms of long term success (See Malakoff, D. 1998 "Restored Wetlands Flunk the Real-World Test"). We recommend NOTsolely relying on agricultural drain and waste flows as a water supply (as these will shift in time due to changes in application technologies, crop conversions and land use changes). Where possible a minimal water right could be procured to ensure the sustained value of any opportunistic seepage.

While suitable for use as nutrient catchments and filters, constructed wetlands should not be included as complete mitigation. Better the USIBWC cooperate with the NRCS apply its resources to establishing continuous *strand* or buffer *strip* vegetation along a restored channel capable of conveying hydrologic pulses.

- Simply put, the habitat bead approach needs strands to provide habitat connectivity and insurance in the form of water rights in order to be sustained in the reasonably foreseeable future.

In-stream flow structures (eg. groins and vortex weirs) have limited value in fisheries rehabilitation as total habitat. These structures lower velocities for current refugia but do not significantly enhance primary productivity or provide allochonthic nutrient inputs necessary for aquatic habitat restoration. In-stream structures should not be considered as significant mitigation measures when measured against the near-complete destruction of the aquatic ecosystem resulting from the construction and historic operation of the CP.

Channel-form restoration provides a more complete effort, especially when combined with designed flood pulse.

It may be wise to consider the introduction of sediment inputs from tributaries to the Project reach as *beneficial* towards development of stable substrates for aquatic insect development and fish spawning beds. Gravel inputs have been inhibited by sediment control structures. The mainstem channel is increasingly dominated by homogenous sand beds.

SWEC recognizes the need to prevent undue channel sedimentation but encourages the use of flushing flows in a flood pulse as a method to mimic the natural hydrograph and mobilize channel sediments for downstream transport and designed overbank deposition. The cost-benefit of the flood-pulse should include the benefit of the elimination of a multi-million dollar sediment control structures and the homogenization of substrate size distributions at arroyo mouths.

- Flood Pulse (FP) represents the most sound ecological restoration option available to the Project. FP encourages macronutrient cycling, phosphorous mobilization, alternating oxidation and reduction states of nitrogen, soil hydration, and macrophyte response. FP mobilizes salt accumulations and opens channels through scour.

FP applied to the Project can be scaled to accommodate channel capacities and reflect diminished water supply. This is done by nesting streamways within floodways in a two stage design (See Brookes 1988, and Palmer 1976). A designed bankfull discharge and flood peak/recession hydrograph are needed for the CP.

A distributed hydrologic model of the watershed is manageable within the contractors GIS system, which the SWEC feels is underutilized in the EIA process. What happened to the graphical outputs of the HEC model outputs? These should be included in the environmental documents as excellent summary tools (a picture is worth a thousand words...). The SWEC GIS easily provides such tools. For example the Buffer by Rise algorithm provides a quick view of potential floodplain acquisition areas for economic and feasibility assessment. A geomorphic instantaneous unit hydrograph (GIUH) can be generated from the watershed width function to effectively develop flood hydrographs from basin geomorphology (DEMs).

Used in conjunction with the FLO2D flow routing package the GIS offers the ability to quickly model the effects of levee set-backs, manipulations of mannings values, split and over-bank flow extents, etc. The SWEC FLO2D models, incorporated with TARDEM (Tarbuton 1999), SINMAP (Tarbuton 1999) and ArcView Extensions have been used to generate stability, wetness, saturation, stream power, sediment transport and other useful indices for CP rehabilitation models and cognitive views.

SWEC model outputs indicate significant problems in USIBWC assumptions and results, especially in terms of water surface elevations, levee stress points and (significantly) the affected area of each alternative. The proper deliniation of these affected areas is necessary under NEPA and will significantly change economic cost-benefit, ecological service and feasibility analysis outputs.

- *The SWEC is willing to provide Parsons Science, Inc. with a single site license for FLO2D and sourcing for utilitarian ArcView Extensions to assist in the proper evaluation of the full range of alternatives for the Project EIA process.* Additionally, the simple cooperation with the Army Corp of Engineers and contractors would provide full integration with model outputs already developed in the upper watershed contributing to the Project.

It would seem that an agency would desire to apply the Best Available Technology (BET) to avoid the loss of property/life and optimize ecosystem restoration efforts (cost/benefit ratio). This is certainly the intent of NEPA and will forestall adverse SWEC response to the alternatives developed by the ill-fated agency modeling effort.

- The USIBWC has with no apparent justification eliminated the Interior Least Tern from consideration under the ESA (USIBWC 2000). Without further investigation, this cursory dismissal lacks evaluative merit, substance and authority in Federal Law and should be an issue of contention and basis for litigation.

The practice of depositing dredge spoils on the floodway should be prohibited as it further isolates the channel from its floodplain and apparently has increased channel thalweg elevations. This increases breach kinetic energy and flood damage should the levee fail.

- Spoils deposited off-site should be done so as to minimize the angle of repose and these sites must be kept maintained with adequate vegetation beyond the 30 year life cycle. This sediment storage represents an intergenerational disparity as it accrues through time. It is a cumulative impact on the local environment, a direct effect, a concern to the ecosystem, a long-term cost to be assessed. See Collier, Webb and Schmidt 1996).

Limiting USIBWC watershed-wide approaches to Alternative #5 and then placing a 3 million dollar dam into the economic and feasibility analysis of this alternative predisposes a watershed-oriented approach to undue elimination as a feasible agency action. This is known as the "poison pill" approach to alternative development and is contrary to NEPA.

- The exclusion of alternatives #4 and #5 as unfeasible represents the designed rejection of the ecosystem-wide approach by the USIBWC in the alternative development process. This defies the Spirit of NEPA.

Overall we feel that the Project EIA can go forward provided the agency abandons its declaration of preferred alternative #3 and fully and reasonably investigates the full range of alternatives. We cannot endorse the process and efforts as presented thus far.

Thank you for the opportunity to comment. I hope that these perspectives will assist you in your effort to curtail the cumulative impacts impairing the Rio Grande River.

RG-503

Southwest Environmental Center

A VOICE FOR THE ENVIRONMENT IN SOUTHERN NEW MEXICO

August 29, 2001

Doug Echlin
U.S. Section, International Boundary and Water Commission
4171 North Mesa, C-310
El Paso, TX 79902

Dear Mr. Echlin:

This letter is in response to our earlier verbal offer to describe a preferred alternative for operation and maintenance of the Canalization Project. I apologize for the delay in getting this to you. Chalk it up to summer vacation schedules and staff shortages.

One caveat: our organization lacks the technical staff and resources to do more than sketch the broad outlines of an alternative. More rigorous analysis, particular the hydraulic modeling that is a prerequisite to defining such an alternative, is beyond our capabilities. We reiterate, however, our earlier offer to help bring to bear the people and tools needed for the task, particularly related to hydraulic modeling using FLO2D.

We believe that the team from Parsons has done an excellent job of identifying many of the features we would like to see in a new management plan for the project. Our criticism is not so much on the features themselves, but on the scope of their application.

We believe the proposed preferred alternative is deficient because the approach used to develop it and the other alternatives was fundamentally flawed. The alternative itself is a vast improvement over the status quo. If it is ever implemented, we will have achieved a great deal. But for how long?

The question of sustainability looms large, because the process of alternatives formulation did not begin, as far as we can tell, with the rigorous analysis needed to identify the attributes of a self-sustaining, functioning river ecosystem that looks and acts more or less like the Rio Grande of 200 years ago, albeit on a reduced scale. Nor was the process informed, as it should have been, as the consultants admit at several points in the formulation report, and as we believe the MOU requires, by an equally rigorous analysis to determine the possibilities of using non-structural methods of reducing flood damage to acceptable levels.

Here is our view of the process. The Rio Grande has been ecologically devastated largely due to the actions of the federal government over the past 80 years. IBWC holds one of two essential cards to restoring the Rio Grande in southern New Mexico—control over the river channel and a portion of the river's floodplain. In our opinion, this places a duty on the agency to do everything within its power to advance restoration, within the limits of its current legal authorities. The fact that the other essential component of restoration-- the amount and timing of flows--are largely beyond IBWC's control does not let the agency off the hook.

The consultants have identified the need to rebuild or replace 56 percent of the existing levies. You are essentially rebuilding the project. Now is the time to make amends for past sins and to look hard

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at finding ways of making IBWC's traditional responsibilities of flood protection and water delivery fit with river restoration.

Our starting point for describing a preferred alternative begins with defining restoration for this stretch of the river. What is possible? What would a restored, functioning river look like? How wide would its meander belt be? What kinds of flows would be optimal for moving sediment, creating periodic overbank flooding, sustaining native fish, maintaining off-channel habitats, etc.?

Constraints to restoring the river should be realistically assessed. Our view is that what are perceived to be constraints today may well lessen over time. The only truly long-term constraints we recognize are: 1) the total amount of water available in the upper basin in any given year; 2) "permanent" structures in the floodplain (i.e. buildings, etc.); 3) the storage and diversion dams. Short term constraints, such as project authorizing legislation, interstate compacts, or current state water laws, are subject to political negotiation and therefore should not be taken as immutable.

We believe it is imperative for IBWC to take the long view at every possible juncture. We believe the agency's goal in its current reexamination of its management of the CP should be to provide the physical conditions needed to accommodate river restoration over the long term, even if many obstacles appear to thwart achievement of that goal in the short term.

Once restoration is defined, IBWC should determine if the restored river could function within the existing right of way, and if not, how the right of way would need to be altered. Although we are not hydrologists, our informed guess is that the right of way will need to be widened to accommodate lateral migration and overbank flooding. The preferred alternative would identify ways to accommodate these functions, most likely through land acquisitions and cooperative agreements. However, until the specific physical parameters of restoration are better defined, this is all speculation at this point.

Once it is determined how the CP needs to be changed to facilitate restoration, then IBWC needs to determine how to make it compatible with the agency's obligation to provide flood protection. In our opinion, the emphasis should be placed on making flood management fit into restoration, not the other way around. We believe the MOU requires nothing less.

With that in mind, we provide for your consideration the following suggested preferred alternative, based on the analysis done to date:

PROJECT FUNCTIONALITY

- Do a thorough, realistic analysis of present day flood risk. Redefine the design flood if appropriate.
- Raise levees only as needed after more rigorous hydraulic modeling is completed, including analysis of using natural floodplain features to store/attenuate flood flows.
- Cease dredging at arroyos.
- Modify spoil disposal locations/practices.
- Reduce dredging of pilot channel.
- Work with local governments to actively discourage further development near the river that would prevent future expansion of IBWC's right of way. Establish cooperative incentives programs and establish a permanent fund for such purposes.

- Decrease sediment input to the river by actively working with BLM to improve management on uplands. Buy out base properties and grazing permits of BLM grazing permittees whose leased land fails to meet minimal erosion standards after five years. Take non-use on those permits as long as necessary. Establish a permanent fund for this purpose.
- Decrease sediment input to the river by actively working with NRCS to improve private land stewardship in the uplands and floodplain.
- Do not construct any new erosion control dams.
- Expand IBWC's right of way (see below).

Expand the right of way

- Determine needed width of IBWC right of way to accommodate long-term river restoration (see above comments on approach).
- Acquire all lands that come up for sale adjacent to IBWC's right of way. Establish a permanent land acquisition fund to take advantage of opportunities as they arise. Establish annual acquisition acreage targets.
- Make a standing offer to all landowners owning property adjacent to IBWC's right of way to enter into long-term flood easements. Establish a permanent fund for this purpose. Do intensive outreach to encourage participation in the program.
- Breach existing levees as needed to flood expanded right-of-way.
- Set back levees only as needed, as determined by hydraulic analysis. Use natural features of the floodplain (wetlands, etc.) to store/retain floodwaters as much as possible.

AQUATIC/RIPARIAN ENHANCEMENTS

Mouth of Arroyos/Canyons

- Retain/expand existing groins, weirs, and embayments.
- Additional groins, weirs, and embayments.
- Create/expand wetlands.
- Widen channel.

Water Diversion Structures and siphons

- Provide back-water habitat.
- Provide fish passages designed for native fish species.
- (We have questions about what is meant by creating whitewater fish habitat, and the benefits of doing so.)

Wasteways/Drains

- Reduced maintenance.
- Enhance wetlands.

Riparian Vegetation Sites

- Expand remnant bosques.
- Remove salt cedar and provide overbank flooding to reestablish native riparian vegetation.
- Apply to NM State Engineer for rights to water saved by eliminating salt cedar, to use for restoration purposes.
- Plantings as needed to establish seed sources of native species.
- Allow overbank flooding and other processes to ensure regeneration of riparian plant communities.

- Land purchases for habitat and water rights.

IBWC Land Management

- Cease practice of annual mowing of floodway for flood control reasons. If necessary, raise or setback levees to compensate for loss of channel capacity.
- Mow only where necessary to visually inspect pilot channel and levees, or to meet other management objectives, such as recreational parks.
- Prohibit mowing during spring/summer/early fall to protect wildlife, such as nesting and game birds.
- Discontinue all grazing and agricultural leases. (Evaluate tree crop leases on case-by-case basis.)

RESTORATION OF FLUVIAL PROCESSES

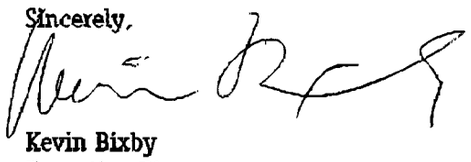
- Designate at least two restoration "beads" within each management unit where sufficient right of way is available to allow the river to reestablish a dynamic equilibrium. Each bead will be the focus of intensive restoration efforts and will probably need to encompass at least several hundred acres along a half-mile (or more?) of river. (Consult with the U.S. Fish and Wildlife Service and their experience with restoration beads on the lower Missouri River.)

Channel structure

- Remove rip-rap and other structural channel hardening within restoration beads.
- Allow river to reestablish new meander pattern.
- Expand right of way (see above).
- Channel splits in ROW.
- Embayments within ROW.
- Bank overflow by shave downs, periodic flood pulse releases (once every 5 years?), and irrigation.

We hope this is useful, and look forward to continuing to work with you and Parsons to craft the best possible course for future management of the Rio Grande within the Canalization Project.

Sincerely,



Kevin Bixby
Executive Director

Cc: R.C. Wooten

RG-504

Southwest Environmental Center

A VOICE FOR THE ENVIRONMENT IN SOUTHERN NEW MEXICO

BY FAX AND HAND-DELIVERY

November 29, 2001

Doug Echlin
U.S. Section, International Boundary and Water Commission
4171 North Mesa, C-310
El Paso, TX 79902

Dear Doug:

This is in response to the proposed revisions to the "restoration" alternative under consideration for the DEIS for the Canalization Project. We remain very appreciative of the degree to which our input has been solicited in the development of alternatives during this process.

The proposed revisions contain notable improvements, in our view. We are particularly encouraged by the following:

- A greater focus on restoration, and the importance of flood pulses, overbank flooding and aquatic habitat diversity;
- Acceptance of the idea that IBWC will coordinate restoration actions with other entities rather than attempting to shoulder the entire burden of restoration itself;
- acceptance of a certain amount of inefficiency in water deliveries, subject to accounting for increased depletions and making arrangements with other water users if necessary;
- A greater focus on stream function and sustainability rather than management interventions to create environmental enhancements;
- A greater willingness to consider actions outside the IBWC's existing ROW.

We remain concerned, however, that alternatives are being formulated and evaluated based on an incomplete understanding of system flood processes and risks, and with an incomplete understanding of the parameters of meaningful ecological restoration, both through the Canalization Project and downstream reaches. Without a better understanding and stronger focus in both of these areas, it is impossible to define and evaluate a full range of alternatives to current river management as required by NEPA and the MOU.

River system restoration is dependent on creating hydrologic connectivity between the river and floodplain. To sustain restoration activities, overbank flood frequency and duration must be addressed. We envision restoration activities to involve increased channel width-to-depth ratio, increased river plan sinuosity, higher flows to achieve overbank discharge, reconstruction of channel bends, bank lowering and revegetation. These restoration activities and others are key to enhancing the river floodplain hydrologic connectivity that was lost when the river was channelized. We do not believe these issues have been addressed in sufficient detail in any of the alternatives.

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Enhancing channel floodplain hydrologic connectivity will directly impact the propagation of floodwaves through the system, both from the upstream river channel and side canyon flooding. Floodwave attenuation is directly related to flood risk and levee deficiencies.

It is clear from both the limitations of the hydraulic modeling used in formulation of alternatives and by statements made by the Parsons Engineering consultants that the alternative formulation did not include accurate understanding of flood movement through the system, flood risks, or existing deficiencies in the levee system. Parsons indicated that very few freeboard problems exist, even under HEC modeling using much higher roughness coefficients. We were under the impression that one of the impetuses for this EIS was the somewhat urgent need to address perceived levee deficiencies.

It is also apparent that better hydraulic modeling with more realistic flood attenuation is required to determine if any levee freeboard deficiencies actually exist. We understand that there are no plans for additional hydraulic modeling as part of the EIS process. If this is the case, we are puzzled how the issue of levee deficiencies will be handled in the EIS.

Our response to any proposal to raise or rebuild levees in the EIS, or for that matter any proposed action to increase the capacity of the system, will certainly be to: 1) seek justification based on better hydraulic modeling, and, 2) argue that non-structural approaches need to be considered wherever such actions are proposed. It is also our belief that the EIS should analyze and emphasize nonstructural flood control measures, including increased upstream overbank flooding, levee removal, levee breaching and levee setbacks. These measures would serve as an alternative to future maintenance of existing levees that may be currently adequate but may need to be repaired or raised in the future. This is the case whether levee reconstruction is proposed as part of this EIS or postponed to a future date, as suggested at our October 23 meeting.

With respect to restoration, all of the new proposed actions are steps in the right direction, but our questions about earlier proposed enhancements still hold: are these actions enough, are they sustainable, and are they the best we can do? We do not believe the analysis needed to answer these questions has been done to the degree required.

In our opinion, the DEIS should address specific channel restoration details and activities. It is necessary, for example, to determine the potential magnitude, duration and frequency of restoration high flows and low flows to sustain the restored system. The flood response to these channel restoration activities should be evaluated with a two-dimensional flood routing model that routes the flood hydrograph to predict floodwave attenuation.

Within the constraints provided by the existing water delivery system and sediment load, we would like to see the following items addressed in the DEIS to create a river channel that may mimic some of the features of a river that existed prior to Elephant Butte Dam:

1. Prescribed increases in channel width-to-depth ratio. Higher variability in channel shape and size.

2. Annual reworking of in-channel sand bars that become vegetated with riparian vegetation seedlings. Minimize vegetation encroachment in the active channel and reduce the potential for sand bar stabilization.

3. A prescribed frequency and duration of bankfull and overbank flows such that vegetation encroachment within the active channel is limited and channel functions are sustained. Flood will promote overbank native vegetation and should assist in removing unwanted in channel vegetation.

4. Increased channel sinuosity to the maximum extent between levees.

5. Levee removal and increased channel sinuosity outside the levees where feasible.

6. Maximize in-channel habitat, backwater habitat and flooded bottomlands.

The new/revised restoration alternative envisions using a flood pulse of 5000 cfs to achieve some restoration objectives in the upper portion of the Project. We applaud the concept, but have several concerns about the specifics. Although some minor channel realignment is contemplated, these flood pulses are analyzed largely within the context of the river's current geometry and within the existing ROW. If the aim is to maximize the amount of overbank flooding (and create slow or still water habitats) with a given amount of flow, other alignments of the river should be considered, including the sweeping curves evident in pre-1916 maps of this reach. It may well be that other configurations that slow the river down more will give us more "bang for our buck" in terms of the amount of floodplain that can be wetted and the amount of aquatic habitat diversity that can be created with a given amount of water.

It may be inappropriate to consider the 1930s as the reference period for restoration in terms of channel plan form since a) the sediment-starved river undoubtedly was straining towards a new equilibrium following the construction of Elephant Butte Dam in 1916, and b) we should not necessarily feel constrained by what the river did in the interlude between 1916-1940s since it certainly wasn't a natural situation, it may not have been a desirable situation with respect to native aquatic life, and we have other options today as we seek to reengineer the river once again.

Secondly, we question the need to restrict this proposal to the upper reach. Although we are in agreement that the upper stretch offers more opportunities in terms of a wider IBWC right-of-way, we do not share the conclusion that land uses prevent consideration of actions outside the right-of-way downstream. Certainly there are many miles of river below Leasburg where the IBWC ROW is bounded by farmland and where the potential exists to purchase land or easements for flood management and river restoration. There are also areas where the river is bounded by federal and state lands that could be managed cooperatively for similar purposes.

We also are concerned that limiting these kinds of restoration actions to the upstream portion may not be enough to provide the level of aquatic and riparian habitat connectivity needed to restore native fish and wildlife species to the river between Caballo and the Conchos River, which is certainly one of the more important criterion for meaningful ecological restoration, in our opinion.

Thirdly, we remain concerned about the issue of sustainability. In our view, an essential criterion of restoration is that the river be able to function—to move sediment, flood, and create and maintain habitats--with as little management intervention as possible. Without a more rigorous analysis, it is impossible to determine if the proposed changes can be sustained (given some reasonable assumptions about future changes in flow management) by the river or would need to be maintained by frequent and potentially costly intervention.

In summary, we believe further analysis is called for to delineate and evaluate a range of alternatives as required by NEPA and the MOU. The key issue is the need to gain a better understanding and definition of what is possible in terms of river floodplain hydrologic connectivity. We are cognizant that the additional analysis we are suggesting will require more time and will likely delay completion of the EIS, and may require additional funding. However, we feel that the public and the river will be well served in the long term if it is done.

We are willing to help in any way we can. Towards this end, we would like to schedule a time to meet with you at your earliest convenience to discuss some possible options and available resources. I will call you soon to see when this might be feasible.

Sincerely,

Kevin Bixby
Executive Director

RG-505

1-015

Darbyshire
Machine Inc.

January 11, 2002

Commissioner Carlos M. Ramirez
International Boundary and Water Commission
United States Section
4171 North Mesa Street
Suite C-310
El Paso, TX 79902-1441

Dear Commissioner Ramirez:

Thank you for taking the time from your busy schedule to meet with my fellow farmers on November 30, 2001. Everyone in attendance appreciated the time and effort Carlos, Doug and you contributed to making the meeting a success.

Obviously there was overwhelming concern regarding two points. First, it is alarming that Options 3 & 4 create additional water uses that cannot be quantified accurately. Nowhere in these Options is any type of water conservation addressed. We are in a desert with a finite supply of water with an ever growing demand. Aggressive water conservation should be a high priority in the IBWC's long-term management of the river channel. Second, the source of the water, as stated in the meeting, for Options 3 & 4 is suspicious. It is doubtful sufficient water rights will be donated for these Options. Water rights are, and will continue to be, too valuable. Let's assume water rights are donated. During drought years these rights might not be sufficient to maintain the areas proposed. Under these circumstances, along with some type of wetlands or habitat designation for the areas, it is realistic to fear water will be commandeered from the rightful owners to support these areas once they are established. There is more than one precedent for such action, most recently in the Klamath Basin in Oregon. I find the entire "science" of habitat restoration questionable.

I have enclosed some photographs that were taken in the area where NM 404/West O'Hara Road crosses the river. These photographs evidence the effects of the current "No Touch" policy without doubt. Sandbars have accumulated over the years in a frequent and consistent pattern. This has caused the main flow of the river to meander within the river's banks, the actual flow of the water to lengthen and considerable bank erosion on both sides of the river. In one photograph the river has meandered within 30 feet of the levee. The lack of vegetation control on the banks of the river further aggravates the current conditions as well as creating additional water use. All of this results in a loss of available and usable water. The accumulation of silt in the channel compromises the Project's flood control capacity. Flood control was one of the primary reasons for the canalization project many years ago. It is said

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www.darbyshire.com

current management practice includes erosion control (e.g. riprap) in the channel. I have driven up and down a considerable portion of the channel in the Anthony area and have seen no recently placed rip rap. In fact there are enormous piles of rock and gravel located at Country Club Road, north of Canutillo, north of Stahmann Farms where Highway 28 crosses the river and adjacent to Shalem Colony Road outside of Las Cruces which I assume are to be used for erosion control. It does not appear that these piles of rock have been touched in years as weeds and trees are growing from the piles. The current condition of the river channel evidences this assertion.

It was disconcerting to hear the primary reason for the Canalization Environmental Impact study was the threat of a lawsuit by the Southwest Environmental Center. I understand that the IBWC's environmental assessment needed to be updated. This reason appeared to be a distant second to the lawsuit threat. Is the threat of a lawsuit, under these circumstances, a valid criterion for the formulation of public policy? It seems to me that such a lawsuit is in direct conflict with the interests of all water users in the region. I always thought resource conservation was part of being an environmentalist.

Many of us at the meeting have been farming on land that has been in our families for 3 generations. We have been farming years before any of the current regulations, restrictions and political correctness became fashionable. Yet often we are cast as anti-environment and destroying the land. We consider ourselves stewards of our land and water resources. We take care of these assets because we earn our livelihood and support our families with them. I know my farm, which my family has farmed since 1913, is more productive and the land in better condition than it has ever been. I have the production records to prove this point.

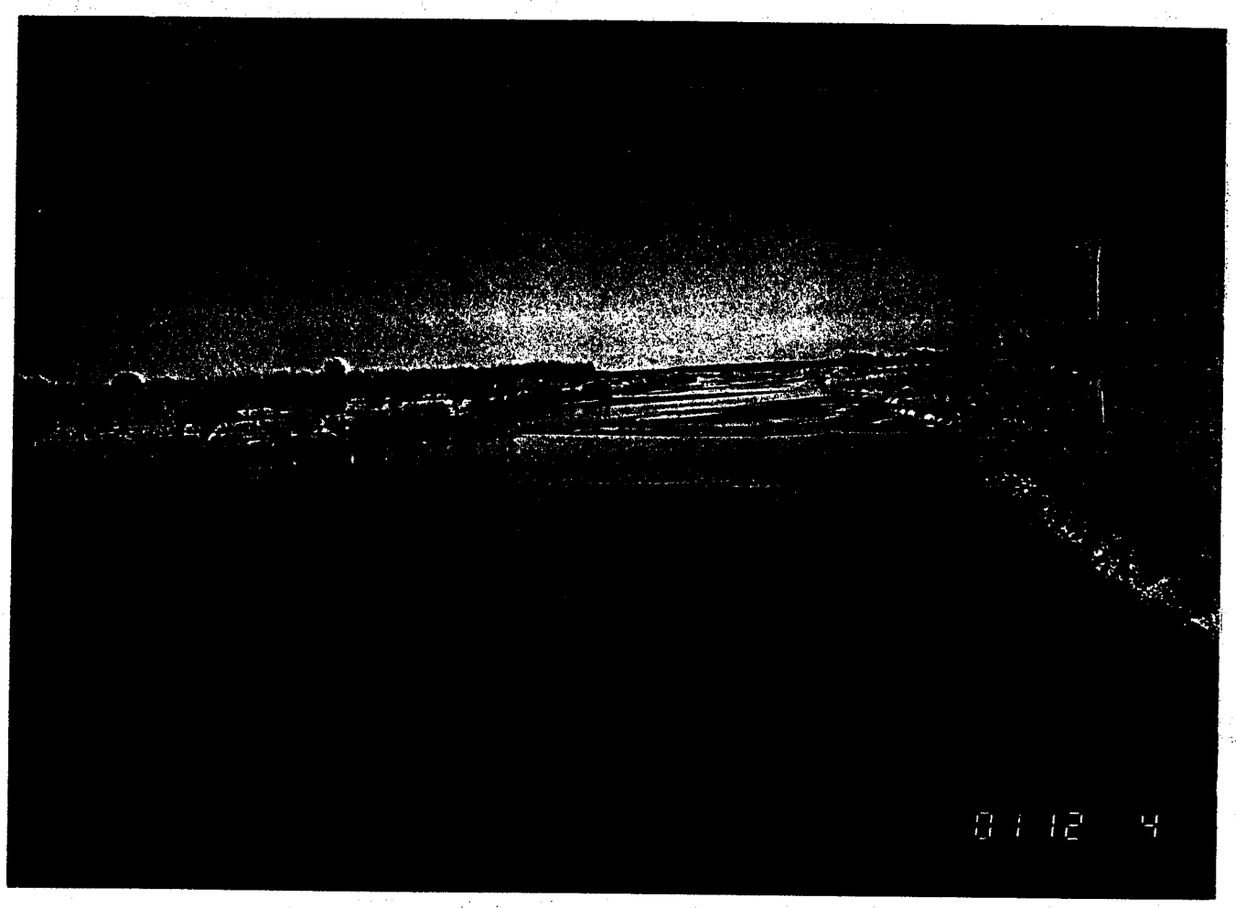
I realize all of this did not happen under your authority and term. I am hopeful your administration will provide more balanced and conservation oriented management policy for the river channel. The IBWC has contractual obligations to deliver water and has a legal obligation to maintain adequate amounts of water for these contracts. A management policy consistent with conservation goals and maximizing the utility of the river water does not have to be, and is not, environmentally damaging. The environmentalists have influenced river and water policy in this area long enough. They exert this influence with little or nothing at stake for them personally. Their beliefs and policies are implemented at the expense of others with much at stake, be it farmers or residents of El Paso and Las Cruces. Clouded by a biased and prejudiced vision of the world they deny the reality of the situation. The reality of the situation being, as stated previously, we live in a desert with limited water resources and a growing demand for water. A more sensible and logical approach to management of the Rio Grande River that addresses conservation and effective long-term resource management is needed.

Once again Commissioner Ramirez, thank you very much for meeting with my fellow farmers. It was a pleasure to see you again. I look forward to our next visit.

Sincerely,

Jack F. Darbyshire

Jack F. Darbyshire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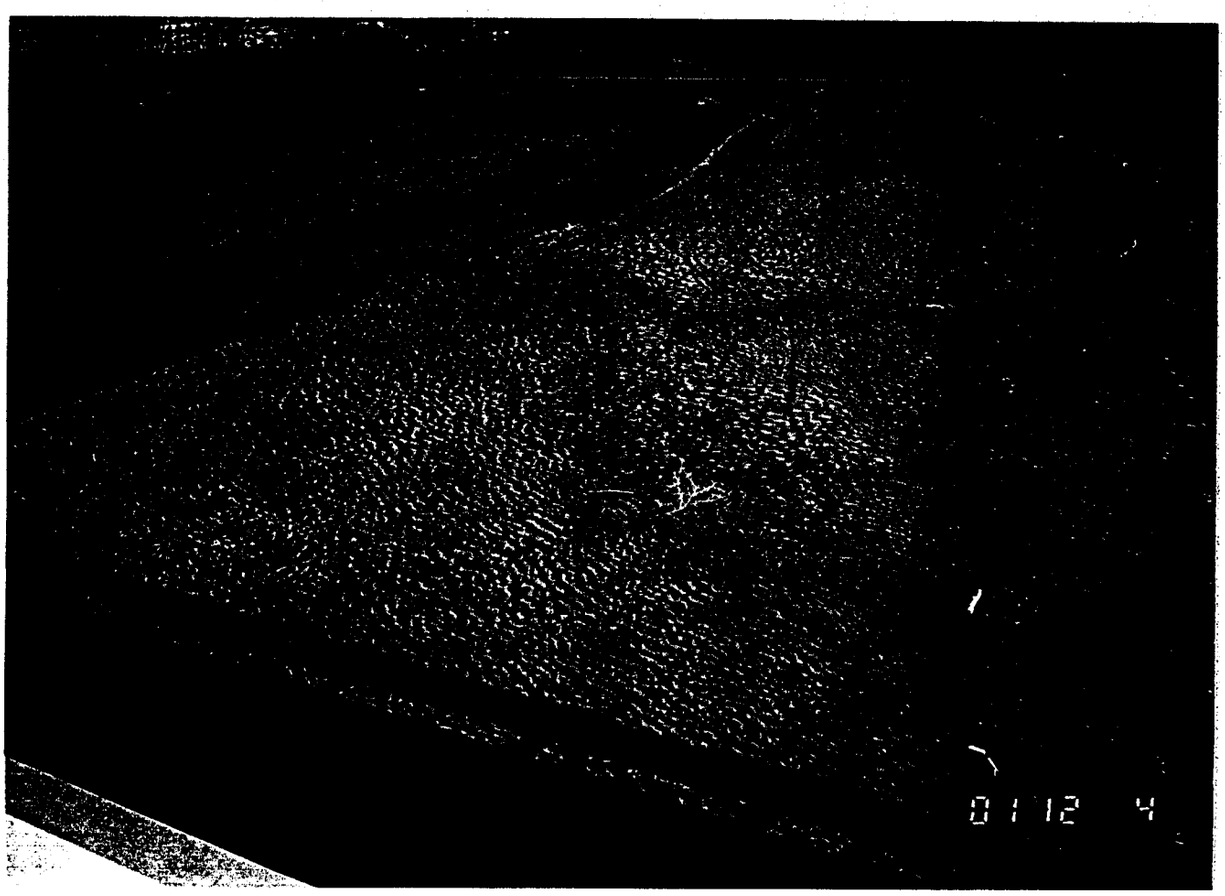
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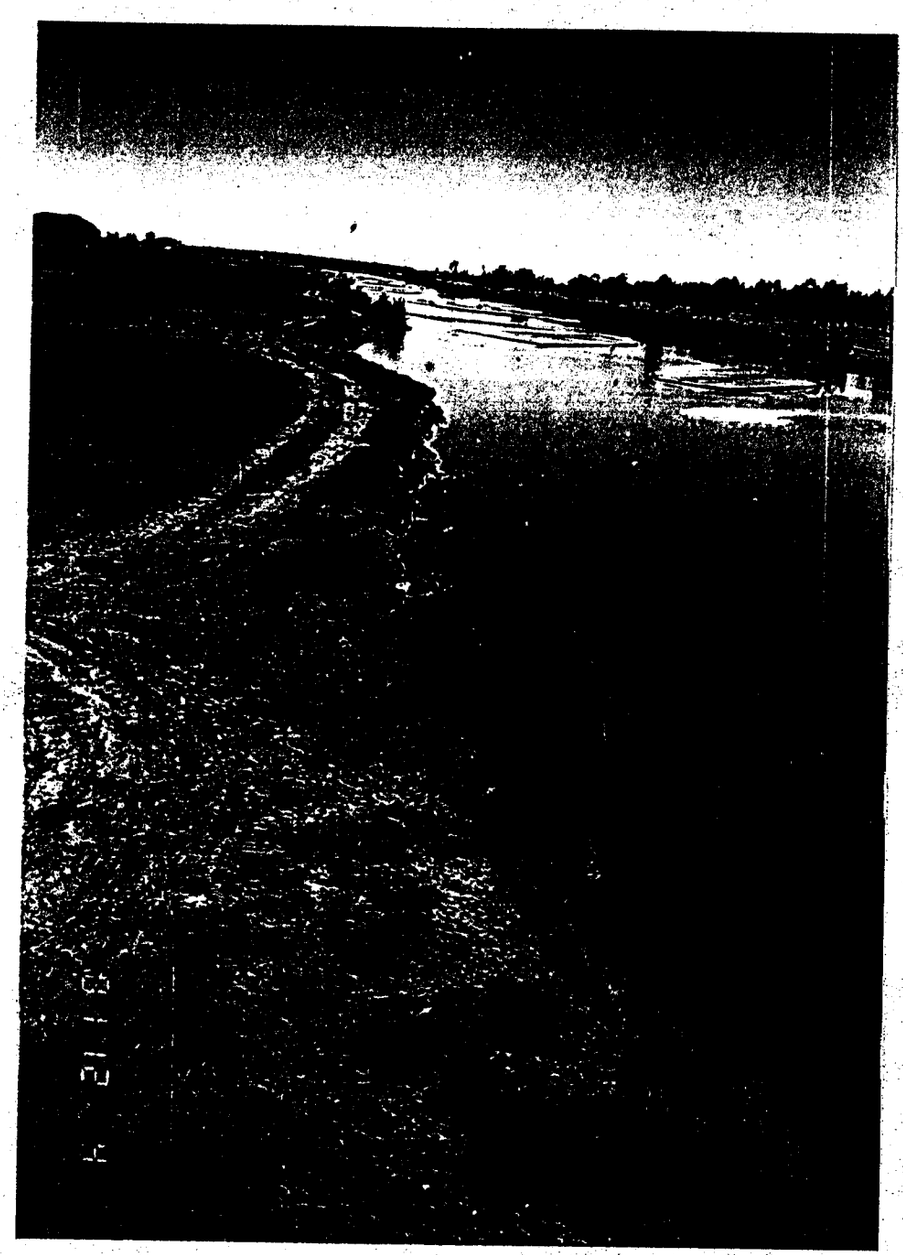

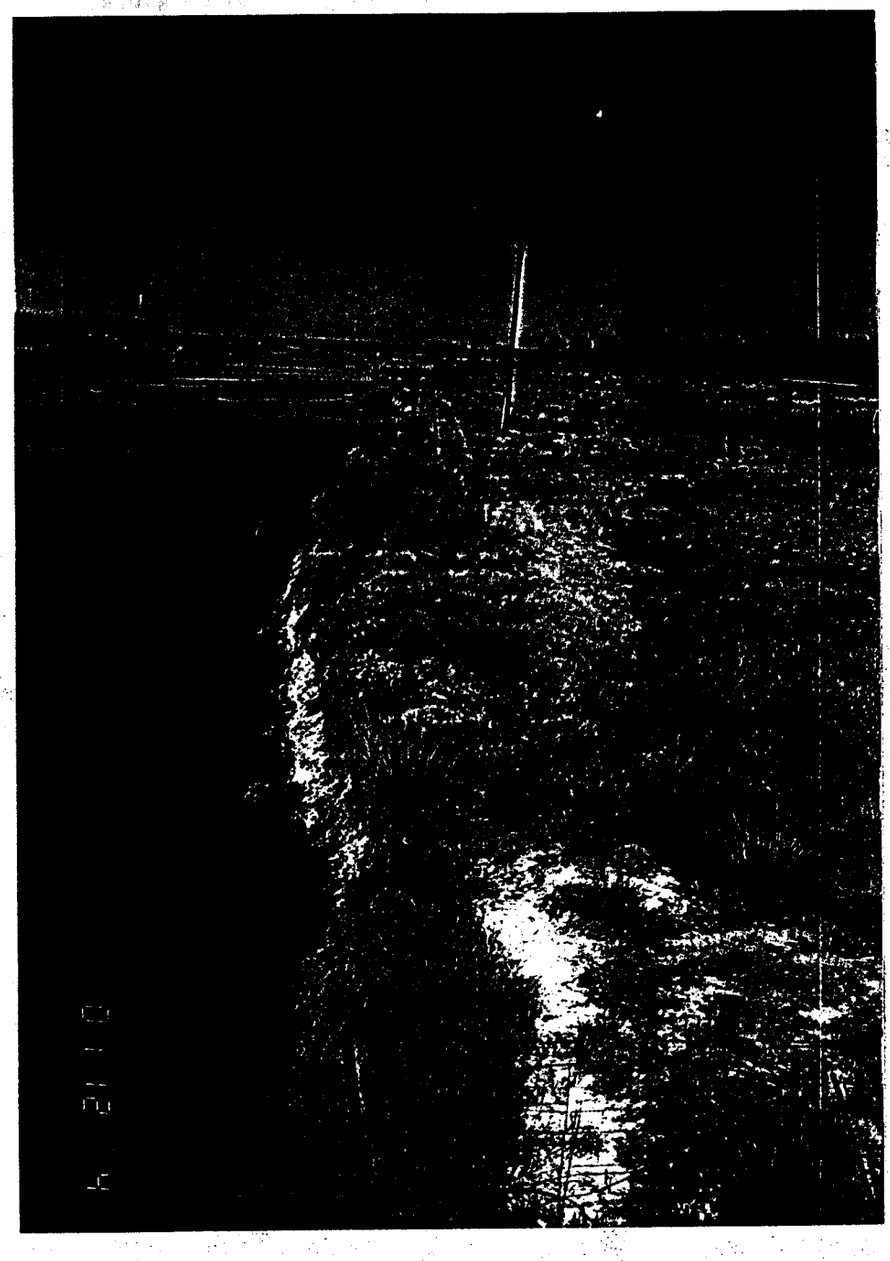

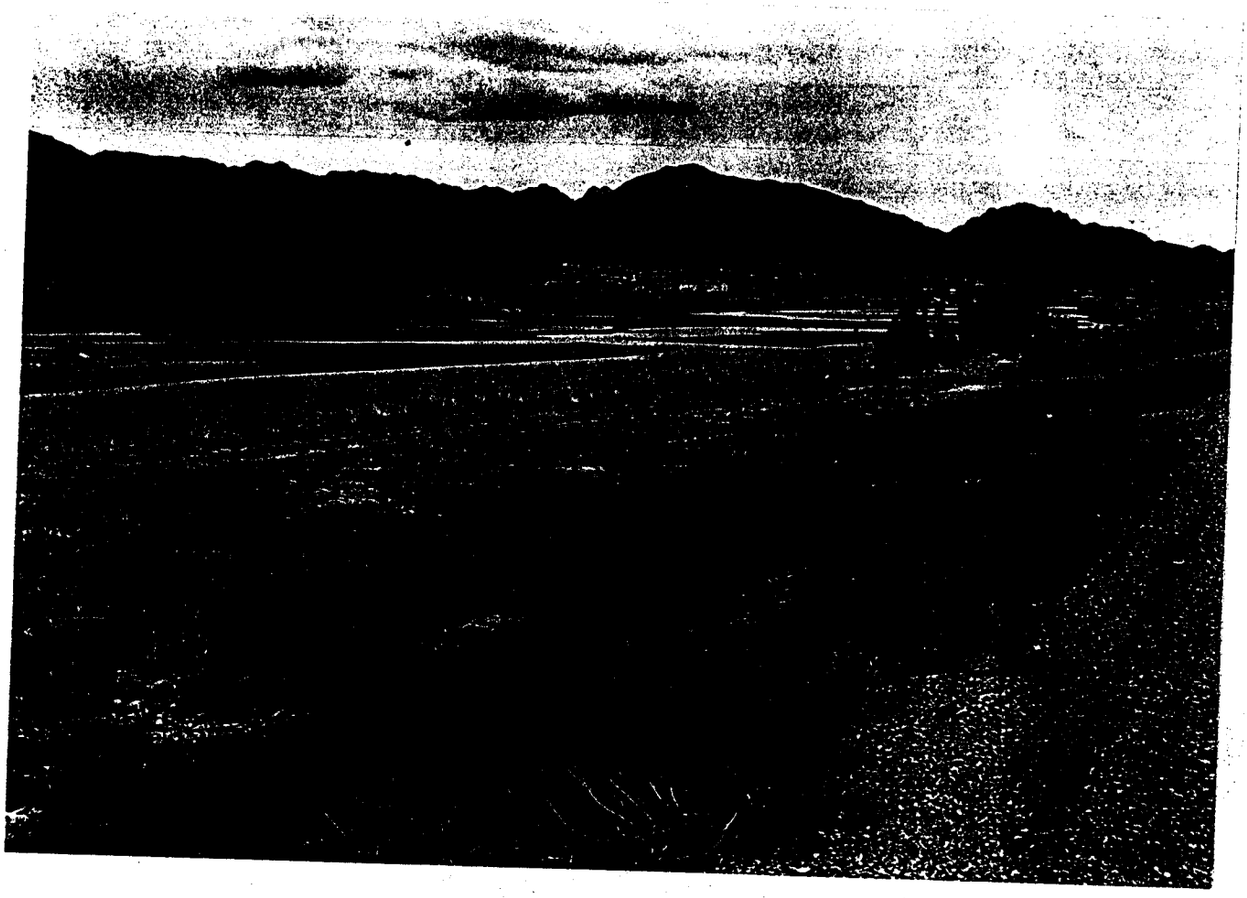

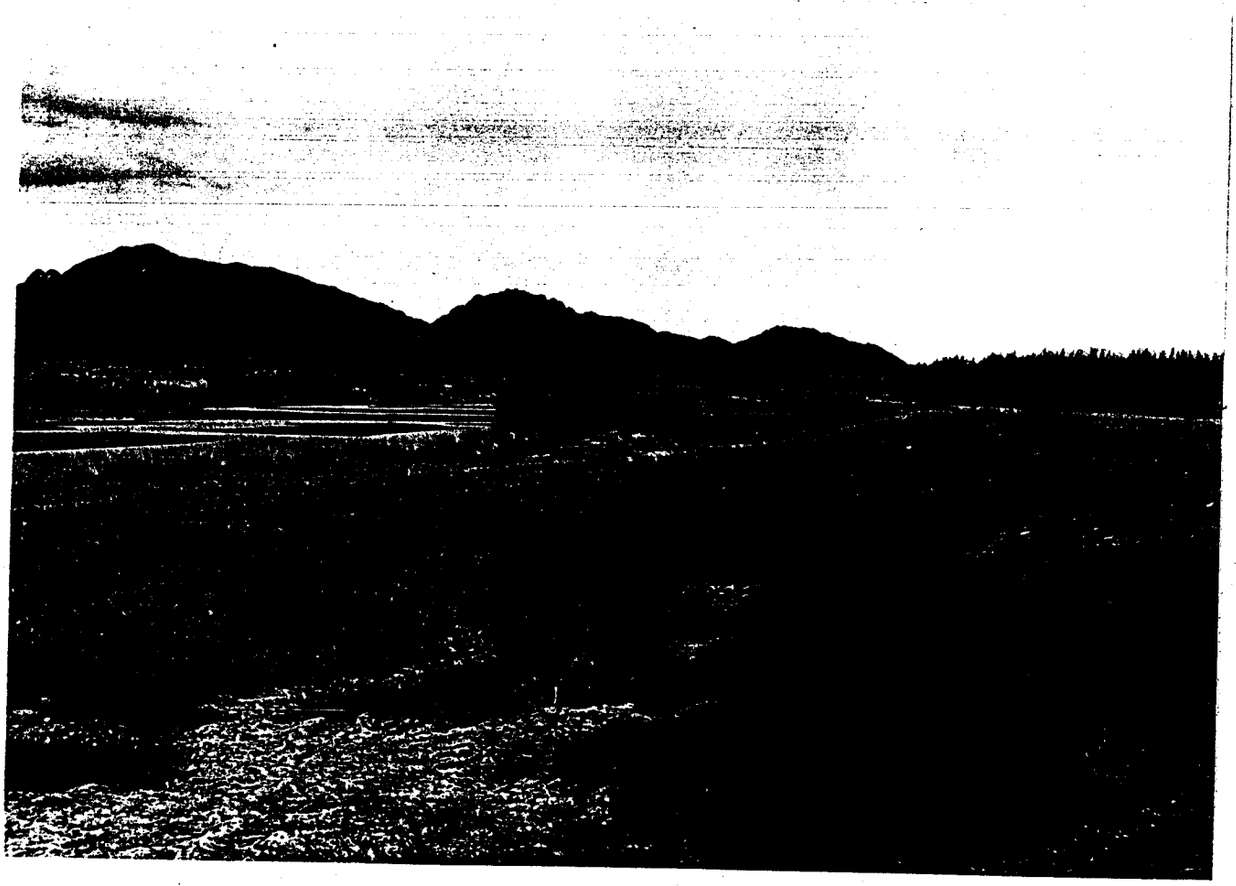

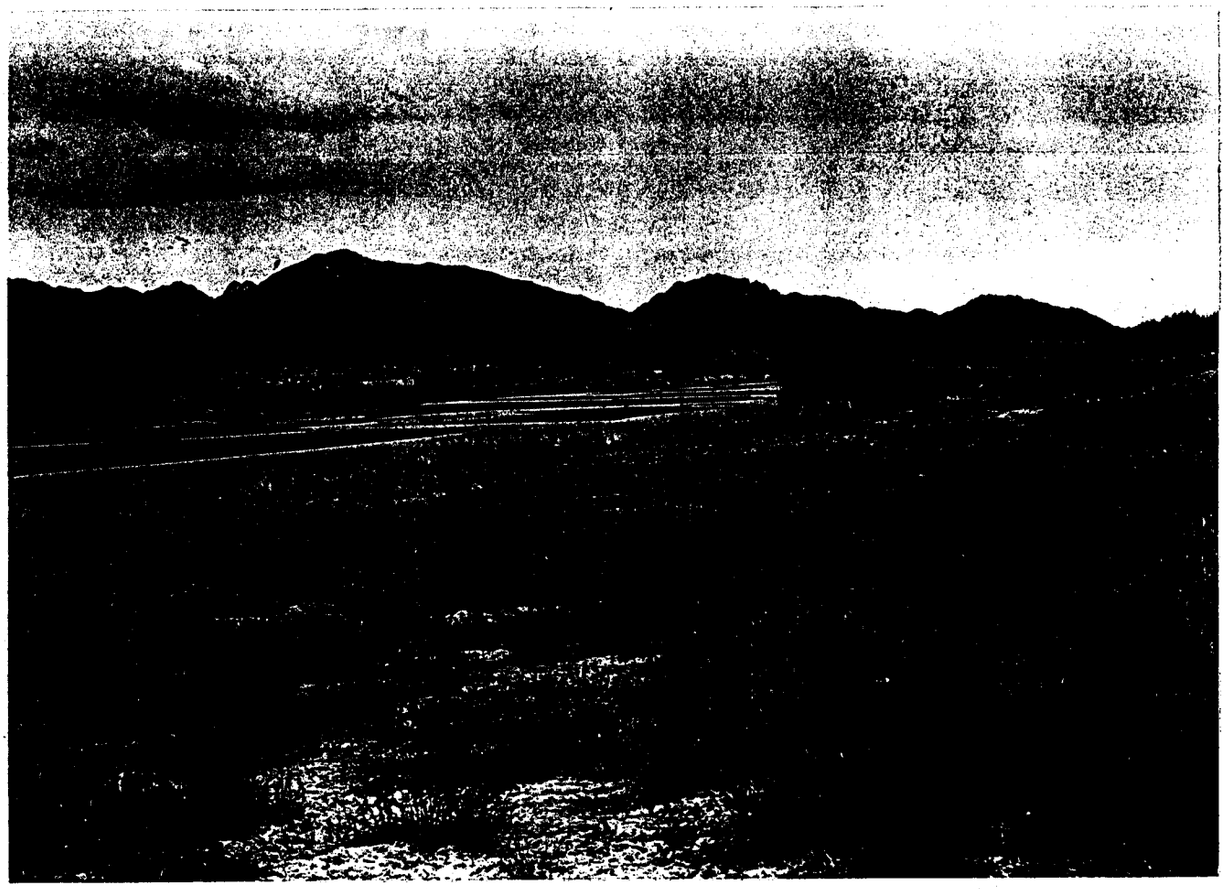

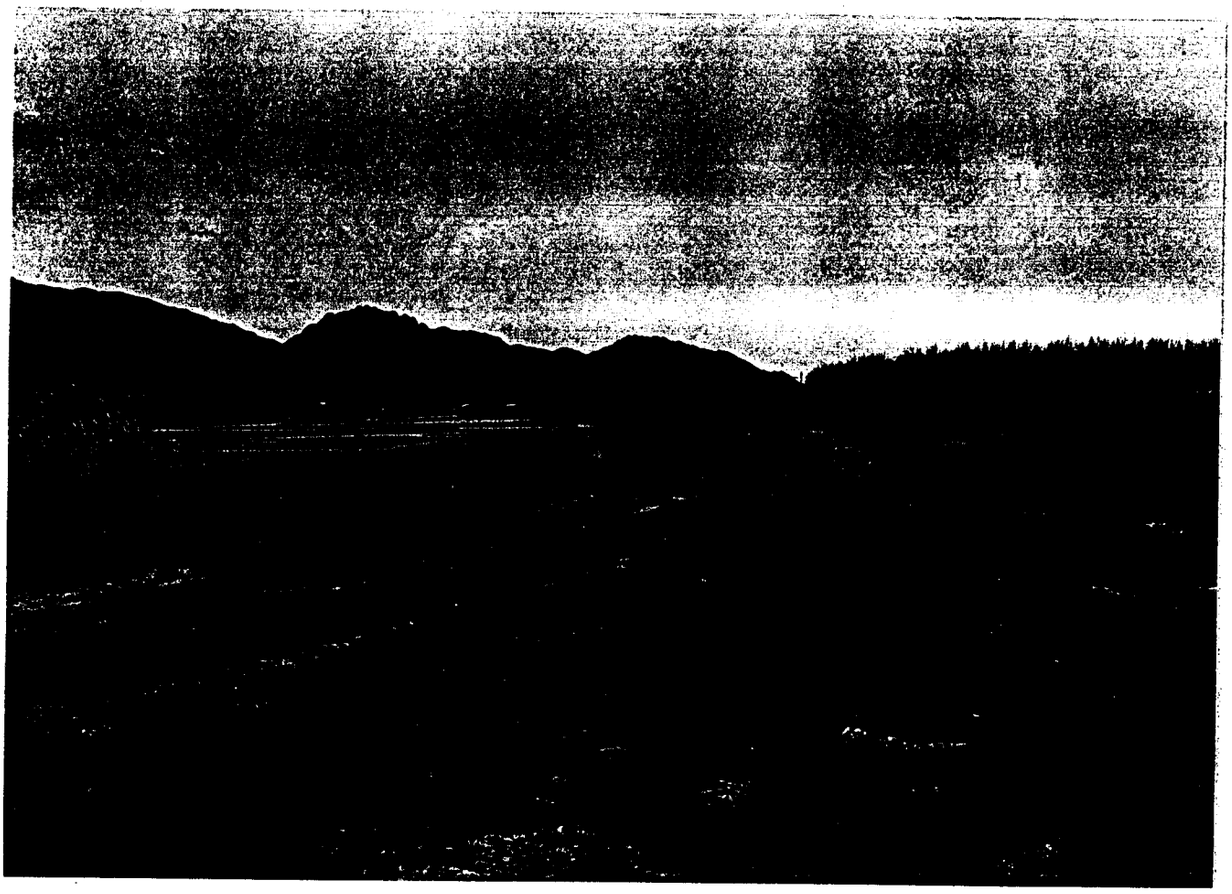

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RG-506

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

FEB 15 2002

Mr. Jack F. Darbyshire
President
Darbyshire Machine, Inc.
P.O. Box 4410
Anthony, New Mexico 88021-4410

Dear Mr. Darbyshire:

Thank you for your letter of January 11, 2002 expressing your thanks for our meeting with you and your fellow farmers on November 30, 2001. My staff and I were glad to meet with you and your group to describe the status of the Rio Grande Canalization Project Environmental Impact Statement (EIS) development. You have included in your letter some concerns about the EIS, and I will try to respond to them here.

Your first concern with regard to water conservation stated that nowhere in the Alternative Formulation Report is water conservation addressed. This subject is part of the analysis being addressed in the EIS section that deals with the consequences of each alternative compared against the baseline conditions (the No Action Alternative). It would not be expected to be a part of the report describing the procedure for determining which alternatives to analyze in the EIS. That is why you did not find any discussion about water conservation in the report. I would encourage you to wait until the complete EIS is available for public review (anticipated in late spring or early summer), study the section describing the analysis of environmental consequences (Chapter 4 in the EIS) for each alternative, and provide any comments you might have following your review of that analysis.

Secondly, you expressed concerns that the water source is suspicious and that water rights would not be donated by those that possess them. As Mr. Douglas Echlin stated in the meeting with you and your colleagues, the United States Section, International Boundary and Water Commission (USIBWC) fully anticipates that water for the enhancements would only come from the rightful purchase or acquisition of those waters needed to support the proposed enhancements. Without agreements and purchase of those water rights, the proposed environmental enhancements project could not be initiated. Additionally, the USIBWC would continue its program to control exotic species that have been demonstrated to use more water than native species, and there would be no need to acquire additional water for the support of the proposed enhancements.

Your letter continues to discuss other concerns, including a description of sediment in the river and a question about piles of rock stockpiled along the project right of way and why it has not been used. Regarding the sediment, the USIBWC maintenance forces regularly patrol and survey the river channel. If accumulations of sediment become extreme or endanger the carrying capacity of the

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channel, removal operations would be conducted following permit application to the United States Army Corps of Engineers. Much of the rock was used in the construction of the vortex weirs in 1998 and included armoring of river banks and arroyo banks at that time. The remaining rock you have seen is stored for future use, for emergencies, and for protection of siphons and other structures crossing the river. In the event of a flood, the rock is needed at a moment's notice, and that is the reason it is stockpiled.

You also question the reason for the current environmental study in relation to the lawsuit by the Southwest Environmental Center. As Mr. Echlin stated at the November meeting, the USIBWC was served a Notice of Intent (NOI) to sue for jeopardizing endangered and threatened species by its continued maintenance of the Canalization Project; and in settlement of the potential lawsuit, the USIBWC agreed to conduct environmental studies to determine alternative measures for managing the Canalization Project. The USIBWC was already developing a plan to study alternative means of managing the project since the existing environmental document for the project was already 20 years old, and federal guidelines recommend that environmental documents should be revisited on a regular basis. As you can see, the USIBWC by settlement of the NOI agreed to do environmental studies it had already planned to do.

I agree with you that you and your colleagues are good stewards of the land, and there is nothing the USIBWC is planning that would jeopardize your continued livelihood. The river management strategies that are being studied must balance environmental quality enhancements with the need to comply with the USIBWC's mission and the United States treaty requirements. This river management balance would be attained through, 1) project rehabilitation to prevent an increased risk in flood damage, 2) project maintenance to ensure the system operates in a manner that efficiently controls floods and makes scheduled water deliveries, and 3) environmental enhancements that ensure flood protection and water delivery are provided in a manner that ultimately supports the river enhancements.

Thank you for your continued interest in the Canalization Project EIS. I look forward to receiving your comments on the draft EIS when it is released for public comment in the late spring or early summer this year. If you should have further questions, please call Mr. Echlin at 915/832-4741.

Sincerely,

Carlos M. Ramirez, P.E.
Commissioner

cc: Dr. R.C. Wooten, Parsons Engineering Science, Inc., Austin

RG-507

Southwest Environmental Center

A VOICE FOR THE ENVIRONMENT IN SOUTHERN NEW MEXICO

May 31, 2002

6-005

Carlos Ramirez, Commissioner
U.S. Section, International Boundary and Water Commission
4171 North Mesa, C-310
El Paso, TX 79902

Dear Commissioner Ramirez:

I am writing on behalf of the Alliance for the Rio Grande Heritage, a coalition of organizations dedicated to restoring the Rio Grande to ecological health in its upper basin. Members of the Alliance include: Amigos Bravos, Defenders of Wildlife, Forest Guardians, Land and Water Fund of the Rockies, NM Public Interest Research Group, Sierra Club, Rio Grande Restoration, Rio Grande/Rio Bravo Basin Coalition, Southwest Environmental Center and World Wildlife Fund.

We appreciate being given the opportunity to review the most recent versions of the first two chapters of the draft environmental impact statement for the Canalization Project. After studying the revised alternatives chapter, we continue to have many of the same concerns we raised in our letter to Doug Echlin dated November 29, 2001. These include:

1) the exclusive reliance on HEC-RAS to model flood flows. Although the consultants recognize the inherent inaccuracy of HEC-RAS and its tendency to overestimate flood risk potential (p. 2-19), they nonetheless use HEC-RAS modeling results as the basis for asserting that 64 miles of levee (nearly half of all levees in the project) fail to meet a 3-foot freeboard design requirement and hence need to be raised. Since correcting levee freeboard deficiencies is a component of all the alteratives under consideration, this would seem to be a very significant issue. As stated in our previous letter, we believe that more sophisticated two-dimensional modeling of flood flows is needed to comply with NEPA and the Memorandum of Understanding signed with the Southwest Environmental Center on March 22, 1999. *We also believe this kind of modeling may result in significant cost savings to IBWC by revealing where perceived freeboard deficiencies do not actually exist.*

2) the dismissal of non-structural flood control options without supporting documentation (p. 2-21). As you are aware, the MOU with SWEC and the scope of work for the EIS both call for an evaluation of non-structural flood control options.

3) the lack of adequate analysis regarding the sustainability of proposed restoration and environmental enhancement measures. In our opinion, such analysis is a prerequisite to determining the compatibility of Project management with river restoration, as called for in the MOU and the EIS scope of work. We believe the kind of two-dimensional modeling described above may shed some light on the long-term viability of restoration measures.

We would like to request a meeting with you and your staff at your earliest convenience to discuss these and other concerns. We would also like to encourage you and your staff to contact the U.S. Army Corps of Engineers office in Albuquerque, if you have not already done so. We believe the

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Corps may have some resources—staff, expertise, and/or funding--that might help accomplish the additional analysis needed for this EIS without a significant additional expenditure of IBWC resources.

In the meantime, we urge you to delay issuance of the draft EIS until such a meeting can be arranged. We would like to reiterate our previous offer to assist in any way possible in the development of a technically and legally sound EIS. Please feel free to call me at (505) 522-5552.

Sincerely,

Kevin Bixby
SWEC Executive Director
For the Alliance for the Rio Grande Heritage

Cc: Doug Echlin

RG-508

Rebecca B. Miller

Thursday, June 6, 2002

Commissioner Carlos Ramirez
International Boundary and Water Commission
United States Section (USIBWC)
4171 North Mesa Street
The Commons, Building C, Suite 310
El Paso, Texas 79902

6-012

CERTIFIED MAIL No. 7002 0460 0001 4436 1284

Dear Commissioner Ramirez:

As a member of the Rio Grande Citizens Forum Board, on behalf of concerned Mesilla and El Paso Valley farmers and rural citizens (simply the Valley and farmers hereafter), I have been requested to research United States International Boundary and Water Commission (USIBWC) proposed projects, specifically the El Paso-Las Cruces Sustainable Water Project (Water Project) and the Canalization Project Alternatives (Canalization Project and, jointly, the Projects).

This communication is to inform you of my findings, soon to be presented at a meeting of the farmers, and provide the USIBWC the opportunity to clarify or dispute any information contained herein. In order to allay further questions, technical, legal or policy documents in support of the clarifications or disputes are welcome. It must be emphasized that the majority of this critique involves events that occurred prior to your appointment, which events and parties were responsible for developing Projects that will result in destroying at least one fourth of Valley farmland. There is reason to believe, however, that under your leadership the USIBWC rightly recognizes that this farmland has been designated as *farmland of statewide importance to both New Mexico and Texas* and, therefore, is now actively seeking alternatives to preserve the Valley's agricultural heritage.

Unfortunately, the USIBWC was not like minded under the previous administration. Based on a review of both the Sustainable Water and Canalization Projects, including federal statutes and other government documents, I found that the Projects as they are now proposed singly and severally:

- Originated from plans, objectives, policies and procedures of the *Biodiversity Treaty* and *Agenda 21-Sustainable Development*, or *Rio Conventions*, pursuant to the United Nations Earth Summit in Brazil 1992, which *Biodiversity Treaty* was subsequently signed by President Clinton in 1993, but was NOT subsequently ratified by the Senate, and which *Agenda 21* was neither signed nor ratified, certain principles of each being in direct opposition to the U.S. Constitution, the Bill of Rights, and existing policies.
- Were developed and formulated without due process or full disclosure, and influenced by political, financial, and special interests in violation of the National Environmental Policy Act (NEPA) and Executive Order 12866 Regulatory Planning and Review, and which interests were favorable toward industrial, municipal and special environmental interests at the expense of agriculture and rural communities.
- Were developed, formulated and or decided in violation of Executive Orders 12630 Government Actions and Interference with Constitutionally Protected Property Rights, which states that each agency shall be guided by principles that include a Takings Impact Assessment to determine if the actions undertaken will substantially effect the use or value of private property, even if there is less than a complete deprivation of all use or value, and to determine if the actions would result in undue additional burdens on the public fisc. (sec. 3 (a) and (b))
- Oppose the national objectives and goals underlying the Farm Protection Policy Act (FPPA), in that they endanger rather than protect prime and strategic farmland in the Valley, and limit present and

future options to deal with social, economic, food security and environmental problems as outlined in the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) National Programs and as available under the Conservation Security Act (CSA) 2001.

- Are image rather than substance, in that they fail on all five substantial points of sustainability theory and that decisions did not consider or account for: 1) long-term impacts and consequences, 2) interdependence, 3) participation and transparency, 4) equity, and 5) proactive prevention.
- Were not determined based on the best available research and science available and reflect critical data discrepancies compared to official state statistics with respect to present and future municipal water demand, population growth estimates, and the amount of farmland that would need to be eliminated to provide projected Phase III water.
- Are significantly inferior to other options for conserving natural resources and preserving wildlife and, contrary to the statements of the Water Project Record of Decision (ROD), would in fact cause significant harm to the Valley's environment as a whole.
- Would exacerbate rather than mitigate or resolve existing problems of national and regional import with respect to unrestrained industrial growth and urban sprawl.
- May endanger the lives and health of human beings, domestic animals, and wildlife in the Valley.
- Use misleading terms to influence perspectives, i.e. farmland conversion and water reallocation instead of respectively, eliminating farmland and taking irrigation water from agriculture, or anthropogenic (human) and agricultural degradation *ad nauseam*.

While my initial review included only the Canalization Project, it became necessary to include the Water Project since I discovered the Canalization Alternatives had already been formulated during the Water Project process as delineated in Section 8 of the ROD of the same, including the commitment of 2% of overall Water Project costs to environmental enhancements. The matter was further complicated by the USIBWC Memorandum of Understanding (MOU) with Southwest Environmental Center (SWEC) in March of 1999, following the latter's Notice of Intent to file suit. I found the USIBWC management practices alternatives in the MOU (date prior to any public meetings) to be identical with those in the Canalization Alternatives Report.

The MOU also agreed to: a) establish "green zones" that would be categorically excluded from NEPA review; b) work in conjunction with SWEC to develop their study protocol; and c) have SWEC conduct the plot studies (i.e. monitoring and data collection). I was informed that this data will be used to support conclusions in the Environmental Impact Statement, and strongly suggest that this would be inappropriate if not a conflict of interest.

I found one statement in the MOU particularly troubling: with reference to the green zones in an emergency, "USIBWC retains authority to conduct maintenance in all these areas *after* notifying the citizens environmental forum." (Emphasis mine.) While it may have been unintended, it nevertheless gives a great deal of weight to the environmental forum. And with respect to the environmental forum established by the MOU, while it is first characterized as environmental, it is later stated that it was intended to "represent all parties with major interest in the Rio Grande...". Unfortunately, from March of 1999 until February of 2002 (the time of alternatives formulations and selections), the interests represented were solely environmental.

This favoring of the special environmentalist interest I found to be a common characteristic throughout the Projects and their development. In fact, the Water Project was conceived by the Center for Environmental Resource Management (CERM), an environmental non-governmental organization (NGO) and an offshoot of the Institute for Global Studies based in Houston (also called the Mitchell Center, which Institute promotes the Bruntdland theory of sustainable economic development, also known as *Agenda 21-Sustainable Development*, United Nations Earth Summit 1992). It was not difficult to determine how the *Agenda 21* strategies and objectives (replete with policy recommendations) resulted in the Water Project, since then USIBWC Commissioner John Bernal, and certain members of the New Mexico Texas Water Commission were also members of the Paso Del Norte Water Task Force working in conjunction with CERM.

Unfortunately, from inception to the final Water Project ROD, including the MOU and the Canalization Project Alternatives Report, I found that the municipal and environmentalist interests were always favored, and the farming and rural interests always disfavored. Moreover, with respect to water resource management strategies, taking water from agriculture to meet potential municipal needs was the first and only option ever considered. An example follows from an earlier Paso del Norte Water Task Force Options Paper (under list of options under consideration):

> "Continue to develop a better understanding...of how each political subdivision...establishes water rights and whether and how these can be transferred from agricultural to municipal use...Analyze current land use and begin an in-depth discussion of projected land use changes and conversion of land from irrigation to urban use."

It is clear that as the Water Project developed, the primary focus was meeting future urban needs (even though initial mention was made specific to drinking water needs); moreover, Rio Grande surface water was presented as the only alternative. Such a complete reversal of historic water management strategies, with surface water now proposed as a more desirable alternative to ground water for drinking purposes, was a conclusion uncorroborated in the documents by any research or science. The Canalization Project also proposes operations that are a major departure from known flood control and water delivery procedures without justifying the same. The Projects were replete with unsupported assumptions. And it is most unfortunate that the concern demonstrated for urban welfare did not extend to agriculture and the rural communities. In fact, agriculture was referenced only as a potential water resource for urban needs. This dismissive attitude is contrary to national concerns, objectives and strategies to preserve our country's prime and unique farmland, land that is presently being destroyed at an alarming rate because of unrestrained urban growth. And the concern is not solely due to reasons of food security. Research has identified that farmland is the one true sustainable economy in history and of great import to maintaining local security and a strong local economic base. We have not needed research, however, to know that sustaining our food resource is as important as sustaining our water resource. To attain one at the expense of the other defeats our purpose before we have even begun.

Not only is farmland key to local food and economic security, it is now being viewed as a primary resource in achieving a significant number of the nation's natural resource preservation goals, and therefore identified as strategic farmland in those areas of high urban development risk. The FPPA was enacted to prevent the very thing we find in the Projects, the tendency to convert farmland in the urban interest. While the Water Project Record of Decision mentions the FPPA and consequent "mitigating" measures, it can be demonstrated that the proposed measures will in fact increase the loss of farmland, rather than help preserve it.

Also characteristic of both early and final reports was a failure to define the environment accurately. The value of environmental science is a contextual one that precludes microscopic perspectives focused solely on pristine wildlife habitats at the exclusion of other factors integrated into a system. And contrary to the view held by the political environmentalist interests, natural is not always synonymous with best, and the environment does not exclude the human dimension. Unfortunately, I found these base assumptions throughout the Projects as demonstrated by the weight given to establishing selective pristine floodway green zones at the expense of the Valley agricultural "green zones." In fact, while farmers have created one vast green zone out of a desert for humans and wildlife, the reports consistently characterized both agricultural and human activity as degrading. This view is not only unscientifically subjective, it leads to prejudicial assumptions and incoherent solutions as demonstrated by the dismissive treatment of agriculture as integral to the Valley environment. And the evidence does not support the Water Project's ROD conclusion that eliminating farmland – a consistent food source for wildlife, among other things – would have an insignificant impact on that same wildlife.

In a letter from Mr. Darbyshire to you, he communicated this concern with respect to the bias against agriculture in favor of the environmentalists. He also noted his unease regarding how this may affect water rights. The response to Mr. Darbyshire in a subsequent letter (February 15, 2002) – meant to provide assurance - was unfortunately inadequate if not erroneous on both counts based on my findings. It would appear that you are unaware of the undue influence of the environmentalist interests, working conjunctively with political and financial interests, that provided the framework for the Projects - and the subsequent selection of alternatives. And regarding water rights,

your letter stated that water from farmers would only be obtained by "rightful purchase *or acquisition.*" With all due respect, this is the same sort of vague terminology as the Projects' statement of obtaining water from "purchase of water rights and *other methods*" (all emphasis mine). Further investigation into the true meanings of *rightful acquisition* and *other methods* as they have been implemented in other regions is not in the least assuring, but in fact supports the farmers fears that policies and regulations are being redefined by special interests. With the present endangered species laws and one stroke of a judge's pen, such things as personal "rights" are summarily non-existent. As the Parson's Engineering representative said at the April 16, 2002 Elephant Butte Irrigation District (EBID) meeting, that if there aren't any endangered species now, we can be sure there will be once we establish these habitats. Quite frankly, none of these very real concerns are being addressed, but continue to be dismissed out of hand; I feel fairly certain that support for these habitats will require the agreement EBID has been seeking from regional environmentalists with respect to using these laws to appropriate water.

Moreover, the farmers are concerned about the skyrocketing water costs that will be just one of the negative consequences of the water banking and leasing plans being proposed. All of these issues required a substantial and in depth analysis that I found to be disturbingly lacking, and careful consideration appears to have been replaced by an impulsive rush to implement such golden opportunities as water banking. This is another aspect of the Projects that demonstrates that the Water Project was initially an economic development plan based on utilizing water as a commodity.

It is significant that while the Water Project was based on *long-term* water demand projections, there was no corresponding *long-term* impact analysis. We hope the Canalization Project with it's mention of a *long-range* incremental plan for river restoration resolves this inadequacy. From an economic standpoint (which economic development was the basis of early project strategy documents), one would consider it critical to determine, for example, the results of incrementally removing private and income producing property from the tax base, which now public property must be funded from additional tax moneys, which tax moneys must now be replenished via industrial development, which industrial development must now be mitigated by environmental measures with additional public funds, etc.

One specific Water Project proposal may serve to illustrate that these plans are not coherent or economically sustainable, much less innovative or integrated. The Water Project proposes to "reallocate" irrigation water to municipal use. As a consequence, the now fallow and barren farmland will have to be planted to prevent soil erosion and the growth of noxious plants, which will then require the "re- reallocation" of municipal water to irrigation purposes to establish the *natural* terrestrial vegetation (desert shrubs) – at taxpayer expense.

The spiral of increasing funding need with decreasing available funds that are the result of "solutions" of the type just described, is only one of the inherent failures of the *Agenda 21* plan of sustainable economic development as identified by economists. While many in leadership positions in the United States are seriously concerned with the continued promotion of this plan, the environmental NGO's are obviously encouraged to support it – but not for its economic value or feasibility. Rather than substance, it presents a powerful appeal through such descriptions as "transparency, inclusion, equity, interdependence" etc. Interestingly, real-case scenarios show dialogue with and among elites, usually excluding those interests historically unfriendly to the world view promoted, and with nominal public meetings. Litigation as the first choice of action is common. I propose that use of emotive appeal with the absence of promised results is defined as demagoguery, while one of the first indications of democracy and inclusiveness in operation is variety of options - with litigation usually as the last choice of actions.

Reports are arriving with increasing frequency describing the major negative impacts on communities in which these programs are being implemented. Conservation easements alone are resulting in property devaluations, increased capital gains taxes proportionate to easement value initially given, decreased loan value, egregious restrictions, hundreds of thousands of dollars – both public and private – spent on lawsuits and once rural communities in turmoil. A thorough economic analysis, including case studies where similar conversion measures as those proposed in the Projects have been implemented, would show private property transferred via manipulated economic mechanisms to either government property or control or "trusts," which self appointed trusts, task forces, etc. are directed by individuals with a special interest, and who cannot be held accountable by the people.

And as previously mentioned, while the Water Project claims to attempt to comply with the objectives of the FPPA by mitigating the threat to strategic farmland, the mitigation measures offered are those just described. I could not understand the reasoning process that arrived at this conclusion. The Water Project makes clear that once the water rights are purchased or obtained by other methods, the intention is to plant desert shrubs on the land. How could this possibly lessen the negative impact on farmland, much less be presented as an attempt to protect it? I suggest that these and other measures are environmentally and economically inferior to other available options and are further evidence of predetermined, biased and narrow choices.

Also, certain environmental enhancement actions described in the Canalization Project seem to be in conflict with achieving the purpose set forth in the Water Project - namely prevention of a future drinking water shortage. While research may show that wetlands have potential flood control benefits, any benefit must be carefully weighed against the obvious priority of water conservation. Also, choices show that decisions were based on unscientific assumptions, as in the selection of "thirsty" riparian habitat enhancements preferred solely for its *native* characteristic.

Since water conservation benefits were not high on the list of determining factors in the selection of the Canalization Project Preferred Alternative, there is an incoherence between the Projects, demonstrating a failure of objectivity and careful analysis in attempting to discover the best solutions. This concern was noted in Mr. Darbyshire's letter to you. In other words, common sense dictates that the Canalization Alternatives should have been formulated with water conservation as a priority, which priority was set in the Water Project. When water scarcity is a potential problem of such significance that it requires a community to give up farmland, I suggest that it is incoherent to treat water conservation as an incidental matter.

Allow me to illustrate how incidental water conservation actually was in the selection of Canalization Alternatives. (And contrary to a statement in the USIBWC response letter to Mr. Darbyshire, water conservation potential was in fact a consideration in determining the alternatives, albeit a very minor one.) The Preliminary Matrix Of Alternatives during the general screening process clearly prioritizes environmental enhancements as the main goal following flood control considerations. After flood control we find listed in order: In-channel habitat enhancements, Floodway habitat enhancements, Habitat enhancements adjacent to floodway, Watershed management, Flow regime modification, and finally Other actions, with water conservation listed 2nd in this last category. The eventually selected Preferred Alternative did not rate a water conservation score in the Preliminary Matrix. The Revised Matrix listed water conservation second to the last, and received no score as well.

I believe Mr. Darbyshire's concerns are valid and completely supported by the facts. The Canalization Project is obviously an environmental project, limited by the need to comply with USIBWC mandates of flood control and water delivery; further, and more importantly, the environmental works proposed in conjunction with the selection process are evidence that the USIBWC is not very concerned about a potential water scarcity problem in our Valley. How do we reconcile this with the statement in the Water Project ROD Section 1.0, "The project is necessary to avoid potentially permanent impacts on the Mesilla and Hueco Bolsons...and critical drinking water shortages in the El Paso-Las Cruces region." This key statement was also left unsupported by facts.

The conclusion that the Alternatives of the Projects were not truly alternatives, but limited options based on predetermined and fixed objectives was stated concisely by the Interstate Stream Commission (ISE) in their assessment of the Water Project Draft Environmental Impact Statement (DEIS) as noted on the New Mexico Office of the State Engineer (OSE) web site:

> "The Commission's review of the DEIS noted many problems, statements, and approaches with which it disagreed, but chose to express only its major concerns in its comments which included...All the project alternatives, with the exception of the no action alternative, are minor variations of the same basic alternative..."

Additional comments of the ISC also supported my conclusion that essential collaboration with other government agencies critical to determining the desirability and feasibility of certain proposed actions was partial and selective. It becomes increasingly obvious that those laying the groundwork for the Water Project adopted the *Agenda 21* and *Biodiversity Treaty* blueprint without investigating other options and without a thorough analysis

of the implications. Considering the scope and major impact of the Projects on the Valley, this partiality needs appropriate and timely redress.

While I have concentrated on the negative aspects of the *Agenda 21* (Brundtland theory), some of the more valuable benefits that the theory hopes to achieve are the expansion of options and minimized divisiveness through improved dialogue and "stakeholder" inclusiveness. Unfortunately, with respect to agriculture the options and policies were in fact **no options**, and exclusion more accurately descriptive of the plan's overall treatment of the same as I have previously demonstrated.

One would expect that over a period of time (and EBID representative participation), the initial bias against agriculture would at least be minimized. Unfortunately, the prejudice against the farming interest continues as evidenced by certain comments reflected in the recent March 14, 2002 Minutes of the NMTWC Management Advisory Committee (MAC):

> "Jurgen Schmandt stated that implementation of the alternatives assumed that taking the water from Juarez farmers is politically possible. Paul answered that the JMAS has said that it is possible. Also, there is no intention of simply 'taking' the water from the farmers. The water would be replaced with effluent, or farmland would be retired and farmers compensated by granting them development permits." Item V. Latest Developments of the Tri-Regional Water Planning Group

I would inquire firstly - how has such undemocratic dialogue become politically possible? It is irrelevant that it is Juarez rather than Dona Ana County farmers whose lives are being summarily decided for them. These types of statements are extremely troubling, but not unexpected given the source. We might anticipate that Mr. Schmandt, being the Chief Policy Director of the Institute for Global Studies, would not hold our country's constitutional principles in as high esteem as we would. As I mentioned previously, the Institute supports United Nations Rio Conventions, which strategies characterize our Constitution as an obstacle and personal property rights as archaic. While that may explain how such attitudes have found their way into this process, it does not excuse it. And this illustrates what I mentioned previously with respect to *Agenda 21* being more appealing image than substance. I believe U.S. engagement policy is about exporting our constitutional and democratic principles rather than adopting those of other nations that reflect the above socialist philosophy. Since a USIBWC representative attends these meetings, I would like to know if the agency intends to take any action to refocus a process that is clearly out of hand. We should be strongly advocating that Juarez farmers be brought into the process and condemning elitist attitudes when they arise.

Secondly, I find this and other similar statements indicative of the "cart before the horse" syndrome that appears characteristic of the Projects. There are already salmonella problems being reported by Juarez farmers currently using effluent in the lower valley. It seems logical, therefore, that discussions would focus on solving this problem before talking of taking the farmers' water.

Not only is the bias against agriculture firmly entrenched, so apparently are the financial and political interests that have unduly influenced the process since the Projects' inception. Much political maneuvering is reflected in the Minutes of March 14 that demonstrates a willingness to "spin" the facts depending on whose acceptance or support is being sought. As follows:

> "The representative from Congressman Reyes' office pointed out that there is an incorrect perception in Washington that El Paso is running out of water... Congressman Reyes has offered his assistance to address the issue and minimize negative publicity resulting from this perception. A discussion followed concerning [sic] the reasons behind this negative perception and possible actions that could be taken to minimize or eliminate it...Tony Tarquin stated that the perception that El Paso is running out of water is very inaccurate. He asserted that El Paso is only running out of water at a certain price, and noted as an example that if EPWU [El Paso Water Utilities] were allowed to double its rates, it could secure access to more than enough additional water supplies to enable it to supply the City for the foreseeable future. He reiterated the concept that El Paso is only running out of affordable water." Items V. and VI.

May I suggest a possible reason for the negative perception by referring back to the statement in the Water Project ROD as previously noted, in addition to a USIBWC press release dated November 29, 2000 entitled, *Alternative Selected to Avoid Water Crisis in the El Paso-Las Cruces Region.*

In conjunction with other documents, one could conclude from a whole reading of the March 14 Minutes that the Water Project is not solely an attempt to prevent an El Paso municipal water shortage, but also:

1) Minimize the cost of water to the El Paso municipality at the expense of farmers and rural citizens, and distribute the cost burden throughout Dona Ana and Sierra Counties;
2) Treat and deliver water to Juarez, Mexico at U.S. taxpayer expense (NADBank moneys are secured by the U.S. taxpayer),
3) Further the industrial development plans of Santa Teresa, the "free trade zone," and consequent northwest El Paso industrial development,
4) Create a new source of wealth by redefining water as a commodity with the subsequent sale and leasing thereof controlled by utilities and self-appointed associations.

I fully understand the precarious position of our Valley as it shares aquifers with Mexico, and I believe that common sense and decency require us to find joint solutions. But Mexico is quite capable of carrying its share of the cost burden for these enterprises, which includes at minimum the time and effort to research the status of their aquifers. While some may find it archaic, most citizens still require an accounting of how their tax dollars are spent. And while it is beyond the scope of this communication, I simply want to mention that I am not ignorant of certain global goals with respect to a North American economic bloc, nor talk of a new or revised treaty with Mexico giving USIBWC certain regulating powers. I submit, however, that there would not be much support forthcoming for this idea until Mexico honors the present treaty, and releases the 1.5 million acre feet of water due the lower Rio Grande Texas farmers.

While there is clearly and appropriately a national concern with respect to conserving our water resource, the actual problem is ill defined and remains only a potential problem. I can't help but be reminded of the oil crisis, the population crisis, the endangered forest crisis, the endangered species crisis, the nuclear crisis, the global warming crisis, etc. of the last few decades. This should not be taken to mean that these are not considered significant issues, but that these methods for obtaining public support are negative and harmful. And they obviously lead to the type of "negative publicity" dilemma noted earlier. In the end, truth is the best policy.

On a local level, I found the available information confusing. We are told that Juarez definitely faces a "crisis" in five years, but (from the Minutes) "[Juarez] had not wanted to consider groundwater options at this point in time, because they still don't know enough about the aquifer to evaluate bi-national groundwater sharing alternatives." I find it significant that Juarez entities have expended *very little* effort to solve what's depicted as a *very big* problem - particularly since the Mexican members of the Paso del Norte Water Task Force in 1998 far outnumbered the U.S. members. What are we to conclude from this?

El Paso's present water demand is equally confusing. According to El Paso Water Utilities web site data for 2001, water demand was 178.5 million gallons per day (mgd) - rounded down - or about 200,000 annual acre feet (factor of 44.8% used, per EPWU statement that 80 mgd represents just less than 45% of total annual demand), with an average per capita of 159 mgd, which translates to over 1.1 million people being served – I repeat, in 2001. These figures are respectively 52% and 59% higher than those of the State Comptroller water demand and population figures for the year 2000 (and enough water to serve the projected 2030 population). But since we know that El Paso did not have a population of 1.1 million people, something is clearly wrong with EPWU data. And Juarez' data is either unavailable or potentially questionable (see Minutes remarks with respect to Hueco modeling).

In addition, the 2000 U.S. Census shows that population growth for El Paso had been significantly overestimated, and was in fact much lower than the state average. This is very significant given the expected increase from the NAFTA economic boom between 1996 and 2000. Also significant is that national statistics show a 0 population

growth to birth rate, with all increases coming from immigration. Such growth "positioning," however, was not unusual given the huge amounts of public moneys available (via BECC through NADBank) for NAFTA environmental projects since the mid-nineties - with water treatment given the highest priority! If there weren't a drinking water scarcity problem, I'm sure some enterprising individual would certainly find a way to try and "image" one.

The 2000 Census shows El Paso County population of 679,622 with 10-year growth rate at 14.9%. In 30 years, that would be a little over 1.03 million people. At the projected 140 gallons daily per capita, the overall municipal requirement would be 144.24 mgd; with current surface water at 40mgd, that would require an additional 104 mgd of surface water approximately. The Water Project states that 136 mgd of the total 174.5 would be for areas of El Paso, Anthony, and Canutillo, which is 32 mgd over expected population requirement, serving an extra 228.5 thousand people that according to the statistics won't exist. However, this "overage" would require the elimination of about 7,800 acres of farmland that do exist.

Moreover, according to the Water Project, Dona Ana farmers give up 56.6% of overall water needed, with Hatch and Las Cruces municipalities receiving 22% of the water, while El Paso farmers give up 43.4% and the county municipality receives the benefit of 78% of the water. While no mention is made of specific allocations to Anthony, Canutillo, Santa Teresa, and Sunland Park, perhaps if these were known it would explain the inequity. It is significant, however, that Hatch would be mentioned, but not Santa Teresa given the massive development intended for the latter. Finally, while we understand that El Paso faces a shortage due to the state of the Hueco aquifer, no where in the documents do I find a similar potential problem mentioned for Las Cruces or Hatch on the Mesilla aquifer. These cities appeared to be just "added in." Could you please clarify why these two municipalities need surface treated water of some 38.5 mgd (43,124 acre feet annually and the consequent elimination of 8,600 acres of farmland). Moreover, the whole issue of surface water as THE predetermined water source (there were no other alternatives in the Water Project EIS) needs to be addressed.

Also disturbing is the lack of clarity and context with respect to the farmland that will be eliminated. Firstly, as mentioned above, we are told that we will need to take some 174.5 million gallons per day (195,460 annual acre feet) from irrigation water to meet municipal water demand over the next 30 years. Based on EPWU projected 140 gallons per day per capita this would serve an *additional* 1.25 million people. We are then told that this will require the elimination of 33,066 acres of farmland from crop production (18,722 Dona Ana, 14,344 ElP). These figures reflect an expected gain of 5.91 average acre feet per acre of farmland. What these figures do not reflect is the fact that the Water Project actually requires the sacrifice of over 21% of Dona Ana farmland and 35% of El Paso farmland to urban development – together almost 26% of Valley farmland. In addition, market income loss projections are noted in Section 4.2.12 at $13.1 million for the total project. Is this the average annual loss; if so, it is not clearly stated. According to USDA 1997 Census of Agriculture with 1996 New Mexico Department of Agriculture statistics, Dona Ana irrigated acreage average cash receipts were $964 per acre. Based on a straight line amortization using percentages in this section, this equates to a total loss over 30 years of over $321 million (in the millions approximately, Phase I $50, Phase II $113, Phase III $158.2) in Dona Ana County alone. To place this in perspective, this results in a loss of 21% of farmland from this county, ranked #2 in the state for overall agricultural cash receipts; therefore, a reasonable conclusion would *not* be that this loss is "insignificant" - as characterized in the ROD. And since these figures reflect only the primary impact, there needs to be performed an in depth and sober economic analysis to determine the secondary and tertiary impacts as well. The Water Project as proposed would have a massive economic impact on the Valley, and one with far reaching consequences.

As would the Canalization Project as we add impact upon impact. While the initial claim is that the USIBWC intends to change some management practices that will be more environmentally friendly, we later find that it is the beginning of an incremental but colossal plan to restore the river. Let us be very clear on this matter. To use the Report's terminology, this is a plan that is "fatally flawed" if river restoration is the intention. Aside from one obscure mention of restoration to pre-canalization times, we are not told exactly what restoration would include. However, something of this scope and cost is completely inappropriate considering the very real and imminent challenges we face in this Valley. With all due respect, this is illogical and unreasonable unless it could be shown that: a) there is no water resource scarcity potential, and b) it will cost-effectively help achieve the Valley's overall

preservation and conservation objectives. And there will be significant opposition until certain potentially damaging aspects of endangered species laws are addressed.

Also, for the Canalization Project Alternatives to be meaningful, each proposed operation or procedure change should have been followed by a description of the specific benefit that the change would achieve – and then supported with the best science and commercial data available. One is not informed, for example, what actual flood control or wildlife benefit will be derived from creating wetlands or planting very heavy water use trees in the flood channel. Since the water necessary for these alleged enhancements must come from farmland, which farmland is presently a known and measurable wildlife benefit, the proposed actions require proof that they in fact will be an improvement. And, as I mentioned previously, nothing but native trees have been considered because – well, they're native, which is another example of options presented based on assumptions and with no evidence or justification. And I trust that the very serious concern, as verified by the New Mexico State Veterinarian's office, of migrating birds detected with West Nile Virus soon to be in the Valley will be addressed in the DEIS with respect to wetlands. While the general public has been informed of the need to eliminate all standing water as a potential danger, the government prepares to create acres of the same. This inconsistency needs to be reconciled.

Moreover, had the Farmland Protection Policy Act been given 10% of the attention that was given to creating *natural* wildlife and fish habitat, or had real inclusion been practiced, the redress now required might have been minimized. It is difficult to understand how the USIBWC and EBID could have been so dismissive of the importance of protecting the prime farmland in our Valley. Since USIBWC personnel were alerted to potential NEPA violations during the initial phases of the Canalization Project, which were apparently ignored, one could conclude that political and financial forces usurped objective thinking in these determinations. If these Projects go forward as proposed, and government agencies continue to make the types of decisions as reflected therein, I foresee the Valley being overwhelmed by an urban metropolis with soaring property taxes, water costs and other energy costs. It will lose its stability, character and heritage, with it's remaining open space nothing but a desert wasteland interspersed with grassy, mosquito-infested swamps. The only desirable natural environment the people will know will be the few river parks that won't interfere with the bosque or natural habitats that will be off limits.

I am confident that the people of El Paso and Las Cruces would not support this "vision" of their future nor the Projects in their current form. There will be years of divisiveness and litigation as people are forced to choose sides. For farmers, selling to developers and beginning anew elsewhere will become a more attractive and viable option as the pressures increase. This need not be the scenario, however.

There is hope that a substantial change has taken place at the USIBWC with your appointment. If your position with respect to the Projects has been heretofore favorable, there is a sense that it was due to lack of information. If the USIBWC is now serious about finding solutions that are equitable, however, the farmers are prepared to propose some options. They realize that the official answer to additional alternatives to the Water Project is "case closed." But it is also understood that alternative water sources are already being considered, which if true, then "unofficially" certain options are still open. With respect to the Canalization Project, there will be a complete lack of support for any environmental enhancement measures that require water as long as the farmers face the prospect of losing so much to the Water Project.

I am prepared to present an aggressive plan to the farmers that will not only help agriculture continue to provide the best food in the world, but become a partner with government, businesses and concerned preservationists to achieve the quality of life we all seek. Farmers are not opposed to environmental goals; however, having direct experience in and with the natural environment, farmers have an appropriate and realistic view of the many factors that must be considered to achieve true sustainability. They maintain that preservation and conservation are more accurate definitions of our objectives, with the term "environmental" inadequate and often misleading. And it is past time that the farmers are recognized as a valuable asset in finding solutions to preserve our natural resources and augment our cities.

The Mesilla Valley and El Paso lower valley have both been defined by their respective states as prime farmland of statewide importance for many reasons. With new approaches to resource conservation and farming practices, the USDA and the National Resource Conservation Service (NRCS) have identified strategic farmland attributes that accomplish agricultural, preservation, and economic goals. New technologies, once cost prohibitive, can now

be applied to existing infrastructure and workforce (more simply farms and farmers) using established market principles. Refreshingly, these changes are NOT innovative or revolutionary or visionary – they are natural, based on tried and proven principles, and honoring traditional societal priorities of protecting our water and food supply, among other things.

The plan would apply the best available conservation and preservation research and support, such as that of the USDA ARS National Programs (NP 108, 201, 202, 204, 206, 207, etc.) and the CSA, which will enable the farmers to enhance the Valley with:

- Improved water quality and water conservation
- Groundwater recharge and flood storage, using existing infrastructure for implementing innovative quality control and conservation measures
- Control of public infrastructure costs
- Energy conservation
- Contribution to the tax base – our farmland provides more in tax revenues than cost of services
- Retention of natural systems and processes
- Maintenance of open space
- Improved quality of wildlife habitat and a consistent food source
- Protection of wildlife habitat from natural periodic destructive processes
- Cost-effective mitigation of harmful attributes of natural wildlife habitats, such as vector control at little or no cost to taxpayers
- Preservation of a local food supply, local economic base and local self-sufficiency

Since family farming historically is the one true example of sustainability, perhaps we should give it at least equal footing with technology, science, and industry - relatively new developments in comparison. Unlike agribusiness, small farmers appreciate and understand the value of environmental health. But new technologies that will enable a return to more natural systems have not been financially available to the small farmer until recently. And it has been particularly difficult to adopt new practices given the recessed economy that small operations have experienced for decades, among other negative pressures.

We believe it is now financially feasible to implement soil reclamation and water conservation practices that will enable a return to natural systems without impairing production and quality standards. As you may recall, President Bush identified one measure – carbon introduction (NP 204) – as particularly significant. And while these changes are initially funded by taxpayers on a cost-share basis, they are economically sound initiatives that will not become the perpetual debt burden like other environmental plans.

In conclusion, the nation has identified farmland protection as an important national objective, both Texas and New Mexico have identified our region's farmland as being of statewide importance, and the citizens themselves believe that farmland is worth protecting. Let us therefore refocus our attention on doing so. And when we do, it will provide us with the added blessings it always has. As farmers are enabled to become more excellent stewards, the whole Valley will benefit from the fruits of their labor. Agriculture will become a natural resource buffer for both the human and wildlife communities; moreover, protecting our farmland now will help create viable solutions that will expand rather than limit present and future options to deal with social, economic, food security and natural resource preservation issues.

I hope to propose the plan objectives to the farmers in the near future, but I am rightly concerned that it will not be considered an option should farmers need to spend valuable resources fighting to keep their water and land. Therefore, if you are able, please provide some evidence that shows:

1. The actual state of the aquifer/water supply problem with respect to El Paso, Santa Teresa, Las Cruces and Hatch, including updated water demand projections, according to the best science and commercial data available;
2. That USIBWC will make a concerted effort to protect the Valley's strategic farmland, and will, therefore, according to the best science and commercial data available:
    a. Immediately undertake an in depth analysis, in collaboration with the Natural Resource Conservation Service, of the Water Project's impact to farmland pursuant to the Farmland Protection Policy Act, Section 658,
    b. Seriously seek alternatives to taking water from farmers to meet urban demands;
3. That USIBWC is willing to reformulate Canalization Project Alternatives coherent with the Water Project precedent of a potential water scarcity, and according to the best science and commercial data available, and in compliance with the objectives of the Farmland Protection Policy Act, as stated above (please provide a copy of the Fish and Wildlife Service biological opinion with respect to same).

Given a choice, the farmers would prefer neither selling nor combat. I ask that you give us that choice.

I thank you for your time and attention, and would appreciate a reply at your earliest convenience.

Sincerely,

Rebecca Miller

Rebecca B. Miller

Attachment: Minutes of the March 14, 2002 MAC Meeting

Cc: Mr. Carlos Marin, Chairman
USIBWC Rio Grande Citizens Forum Board
USIBWC

Mr. Kevin Bixby, Co-Chairman
USIBWC Rio Grande Citizens Forum
SWEC

Mr. Jack Darbyshire, President
Darbyshire Machine, Inc.

Mr. Gary Arnold, President
EBID

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MINUTES
MEETING OF THE NEW MEXICO/TEXAS WATER COMMISSION
MANAGEMENT ADVISORY COMMITTEE (MAC) AND
THE REGIONAL SUSTAINABLE WATER PROJECT
STEERING COMMITTEE (SC)
CITY OF LAS CRUCES UTILITY CENTER
MARCH 14, 2002 - 8:30 am

Welcome

Karl Wood welcomed all attendees. A copy of the sign-in sheet is attached as **Exhibit "A"**. Those members attending from the Commission's MAC/SC were as follows:

Ed Archuleta – EPWU
Doug Echlin – IBWC
Anthony Tarquin – UTEP
Dan Santantonio for Jorge Garcia–City of Las Cruces
Karl Wood – NMSU
Ari Michelsen – Texas A&M
Gary Esslinger – EBID

I. Review and Approval of Minutes from MAC/SC Meeting on January 24, 2002

Karl Wood asked if anyone had any suggested changes to the January 24th MAC/SC Meeting Minutes which were included in the handouts. No one had any suggested changes. The minutes were approved as written by unanimous vote

II. Update on the Paso del Norte Watershed Council (Council)

Sue Watts stated that Council was in the process of reviewing the applications received for the Watershed Council Coordinator position. Thirty-two applications were received. Four finalist were selected for interviews by the selection Committee, which is comprised of Conrad Keyes, Ari Michelsen, Ed Fierro, and herself. The Coordinator will have an office at the Texas A&M Agricultural Extension building. The The WAG grant and the funding from EPWU will each cover about half of the total cost of the Coordinator's position for the current year, which is estimated to be $60,000 including salary, benefits, office space and supplies, etc. The Council's application for a $5,000 grant from the World Wildlife Fund (WWF) has been forwarded to the WWF's national office for final approval. The funds from this grant will be targeted towards costs associated with printing of outreach materials and Spanish translation of these materials. Sue concluded by saying that Chris Brown would talk about the status of the Coordinated Database Project and Doug Echlin would cover the status of the Canalization EIS. Sue also advised that the Council was working on developing a Strategic Plan, with Brian Hanson heading up a committee appointed for this purpose. Once the Committee has completed a draft of the Strategic Plan, it will be distributed to the general membership of the Council for review. The hope is to have a draft Strategic Plan in place by the time the Coordinator comes on-board. The Council has also applied for a funding from the USBR.

Echlin gave a brief update on the schedule for the Canalization EIS. Brian Hanson added that the Council was also looking at obtaining some funding from the Bureau of Reclamation. Mike Landis will help with this application. Ari Michelsen added that, in addition to the WAG Grant funding, EPWU will be providing funds for the Coordinator position. The Coordinator position will be a three-quarter time position with full benefits. Ari stated that four candidates are scheduled to be interviewed tomorrow.

Chris Brown updated the MAC on the status of the Council's Coordinated Database Project. The purpose of the project is to develop a regional water flow and water quality GIS database which can be accessed

through a dedicated website. Chris summarized that the three main thrusts of the database program are to develop the water resources maps, to create the needed database architecture, and finally, to bring in the support of the local irrigation districts. A Council subcommittee was formed to develop the proposal for this project. Chris named the committee members and mentioned that Raed Aldouri had agreed to draft the initial proposal. Chris went on to describe the technical aspects of the project and the alternative data access technologies being considered for the setting up the website. The details of his discussion are covered in the meeting summaries from the first two Coordinated Database Committee meeting. These meeting summaries were provided as handouts and are attached as **Exhibit "B"**. Chris advised that the Committee has not yet decided on the data access technology that will be used. However, the goal is to complete an outline for the next draft of the proposal by the next Watershed Council meeting on April 5th. Chris also mentioned that EPWU has offered to provide 5 years of funding to the Council for this and other projects. John Burkstaller stated that UTEP's PACES facility already has extensive hardware, software, and expertise to support this type of effort. He added that he wants to make sure that other stakeholders are involved in the financial support to the Coordinated Database Project – EPWU should not be the sole supporter.

III. Announcement of Members of the Paso del Norte Water Task Force Attending Today's MAC/SC Meeting, and Comments from the Task Force Chairman

Carlos Rincon stated that Mr. Dan Sisbarro, the Task Force Coordinator, was out of town and that he was attending in his place. Carlos stated the Task Force' purpose and goals, and made some comments concerning Task Force objectives and past activities. The Task Force will complete its third year of existence effective this April, and is currently in the process of identifying a second project to implement, which Mr. Rincon emphasized would be a good opportunity so determine how the Task Force can complement the work of other water groups. IBWC/CILA were the convenors for the first project. He continued by describing the composition of the Task Force and its support team, and subsequently introduced each of the Task Force members present at the meeting. Each member that was introduced made some brief comments concerning their participation in the Task Force and the progress made by the Task Force. Many of the comments and subsequent discussions concerned the need to coordinate the activities of the Task Force, the MAC/SC, the Paso Del Norte Watershed Council, and the Tri-Regional Planning Group (TRPG) to establish common goals and avoid duplication of effort. This coordination may result in identifying possibilities for the Task Force's second project. An example given of a possible coordination activity was to post the minutes from all the groups meetings on a common web site. Chris Brown added that the sphere of influence of the newly-coordinated group could actually be much larger than the agencies now realize. Another example was coordinating the Watershed Council's Coordinated Database Project with the Hewlett Foundation Regional GIS project.

IV. Presentation of Runoff Conditions and Surface Water Availability for Rio Grande Project for the 2002 Irrigation Season

Javier Grajeda made a PowerPoint Presentation on the Rio Grande Project current water supply conditions and run-off forecast for the upcoming year. A copy of his presentation is attached as **Exhibit "C"**. After the presentation, Carlos Rincon asked if the USBR had decided on the allocation for next year (2003). Javier replied that next year's initial allocation will not be established until December of this year. Also, next year's allocation will very likely be less than a full allocation. However, the extent of the allocation reduction will depend not only on precipitation levels for the remainder of the year, but also on how much water is ordered by the Districts. Ed Archuleta asked whether their was a possibility that the USBR would lower this year's allocation later in the year. Gary Esslinger replied that he wasn't aware of year when this had occurred. Javier agreed that a lowering of the allocation after the beginning of the irrigation season would be very unlikely. Mr. Archuleta then asked what the forecast for next year's allocation would be with below average precipitation. Javier answered in that event the allocation would

probably be below 2 acre-foot/acre. However, it may end up being above 2 acre-foot/acre if a strong El Nino kicks-in this fall. Should next year's allocation be less than 2 acre-foot per acre, Mr. Esslinger stated that the irrigation districts were talking about delaying of start of the irrigation season until April, and pulsing the rivers flows during the irrigation season. He added that it would be a real challenge to determine the best way to operate the river under these conditions. Javier added that at normal precipitation levels, it would still require approximately 25 years to refill Elephant Butte Reservoir.

V. Latest Developments of the Tri-Regional Water Planning Group

Paul Gorder of CDM gave a presentation on the status of the Tri-Regional Planning Group (TRPG) Feasibility Study. A copy of the presentation is attached is **Exhibit "D"**. After the presentation, Ari Michelsen opened by stating that he was delighted that the TRPG was coordinating their work with the MAC/SC and Paso Del Norte Water Task Force, and welcomed the development of some "out-of-the-box" water supply alternatives. However, Ari added that it was not clear to him from Paul Gorder's presentation what the water supply, hydrologic, and funding benefits accrued to El Paso as a result of implementing the project. He suggested that a matrix form be developed outlining the benefits derived by each TRPG entity from each alternative, and that this matrix be used to better justify a preferred alternative. Paul Gorder stated that this type of analysis had been undertaken during the process of selecting a preferred alternative. Concerning the issue of the benefits derived by El Paso, this get back to the basic question of "Why are we doing this?" What stimulated the whole process was the problem being faced by Juarez of the depletion of fresh water reserves and deteriorating groundwater quality. The question was then asked: How can El Paso and Dona Ana County assist Juarez? Mr. Gorder agreed with Ari that the benefits to El Paso need to be clearly identified in order to get funding for the project. NADBANK needs to see a need for this project, which is basically to remedy the critical water supply situation in Juarez. A discussion followed concerning the funding options for the TRPG, bi-national project and the benefits which El Paso could or should derive from this project. For example, one of the options discussed was that JMAS could build its own plant, but then it may not be able to get BECC funding.

Someone asked if mutual groundwater supply alternatives had been considered for implementation in the first phase. Paul replied that JMAS had not wanted to consider groundwater options at this point in time, because they still don't know enough about the aquifer to evaluate bi-national groundwater sharing alternatives. Therefore, the focus on the first phase was to look at surface water alternatives only. The only short term source of surface water is Mexico's allocation of Rio Grande Project water, so this had become the focus of the TRPG Feasibility Study.

Jurgen Schmandt stated that implementation of the alternatives assumed that taking the water from Juarez farmers is politically possible. Paul answered that the JMAS has said that is it possible. Also, there is no intention of simply "taking" the water from the farmers. The water would be replaced with effluent, or farmland would be retired and farmers compensated by granting them development permits.

Tony Tarquin stated that it appeared to him that the benefit that El Paso plans to derive from Phase I of the project is a "free" water treatment plant. However, assuming 100% grant funding for Phase I of the Upper Valley Water Treatment Plant (UVWTP) was a huge assumption in view of the fact that BEIF has only $75 million this year allotted for the entire border region. Getting this level of funding will require huge political and institutional buy-in, yet in his opinion their has been insufficient planning done to obtain the necessary buy-in. Mr. Archuleta explained that El Paso would benefit from the project because it would be able to readily expand the UVWTP later on when it could acquire the necessary water rights, and also by using the plant for Arsenic treatment of Mesilla aquifer groundwater. Mr. Archuleta added that he also sees the supply of treated surface water to Juarez as a humanitarian issue, and that his Board is committed to solving bi-national water issues.

Carlos Rincon stated that one benefit not yet mentioned was that the project would reduce Hueco Bolson pumping by Juarez. Another is the fact the border communities form one metropolitan area which is socially and economically inter-related. Therefore, the benefits derived are related to developing a healthy bin-national community.

An audience member asked for some background information concerning the members of the TRPG. Paul Gorder replied that the RPG members were EPWU, JMAS, and the Lower Rio Grande Water Users Organization. Ed Archuleta added that CDM will be preparing a report on the TRPG Feasibility Study, which will include an Executive Summary. This will include all the background information about the TRPG and the committees formed by the group. Ed Archuleta asked Paul to add some introductory background slides to his presentation about the TRPG prior to distribution with the MAC/SC minutes. Paul agreed to do so.

Ed Archuleta suggested that the next MAC/SC meeting be dedicated to a discussion about how the water groups can coordinate their activities with each other and added that this may also be a good time to talk about including the State of Chihuahua in the meetings. Tony Tarquin stated that he saw two main issues the needed to be discussed – coordination among the groups and the type of relationships that are to exist among them.

The representative from Congressman Reyes' office pointed out that there is an incorrect perception in Washington that El Paso is running out of water. This issue normally arises every four years when the military Basic Realignment and Closure (BRAC) evaluations are required. Congressman Reyes has offered his assistance to address the issue and minimize negative publicity resulting from this perception. A discussion followed conerning the reasons behind this negative preception and possible actions that could be taken to minimize or eliminate it.

Bobby Creel suggested that Ed Archuleta and Tony Tarquin work together to come up with an agenda for the next MAC/SC meeting, and that they insure that representatives from the appropriate water groups and selected Mexican agencies would be able to attend.

VI. Description of EPWU's Documentation Manual for the EPWU-USGS Hueco Ground Water Flow Model

Bill Hutchinson stated that the U.S. Geologic Survey (USGS) has been working on a groundwater flow model for the Hueco Bolson for some time. That effort is now complete and a draft report on the model has been submitted by USGS to EPWU. However, he pointed out that the model itself was not very accessible, and the USGS draft report was not very descriptive. Also, over time different versions of the model have been developed and used by various entities. Therefore, he has developed a Documentation Manual that describes the EPWU model and that documents the input files used by the model. The computer model and documentation manual are available to anyone who requests them. Interested individuals can contact him personally or via e-mail for copies.

David Allen asked how the 5-year estimate for Cd. Juarez' remaining fresh water reserves was determined. Bill replied that the Hueco model was not used to determine this estimate. Instead, a more direct computation method was used based on a rough estimate of the volume of recoverable freshwater remaining in Mexico's portion of the Hueco Bolson, and also on the current groundwater pumping by Cd. Juarez.

Tony Tarquin stated that the perception that El Paso is running out of water is very inaccurate. He asserted that El Paso is only running out of water at a certain price, and noted as an example that if EPWU

were allowed to double its rates, it could secure access to more than enough additional water supplies to enable it to supply the City for the forseeable future. He reiterated the concept that El Paso is only running out of affordable water.

VII. Presentation on the Impacts of Waterborne Pathogens in the Paso del Norte Region

Dr. Kevin Oshima of the NMSU Biology Department gave a PowerPoint presentation on their ongoing survey study of water-borne pathogens in the Rio Grande. A copy of the presentation is attached as **Exhibit "E"**. Dr. George De-Giovanni's section of the presentation was canceled because many of the attendees had to leave early to attend a Regional Planning Group meeting (Senate Bill 2) in El Paso.

VIII. Other Business

No additional business was brought out for discussion.

IX. Schedule Next Meeting/Location

The next meeting was scheduled for April 25th, at 9:00a.m., at the EPWU Main Office Boardroom.

RG-509

Rebecca B. Miller

Thursday, June 13, 2002

6-028

Commissioner Carlos Ramirez
International Boundary and Water Commission
United States Section (USIBWC)
4171 North Mesa Street
The Commons, Building C, Suite 310
El Paso, Texas 79902

Dear Commissioner Ramirez:

Pursuant to my comments in the letter dated June 6, specifically regarding economic impact of certain proposed water acquisition methods, I am attaching some information on conservation easements (and in another form, also called Purchase of Development Rights, or PDR's).

It is a mistake to propose these ideas without a substantial and long term economic impact analysis. With the economic pressures farmers face, the prospect of immediate money will appear very attractive. I was always taught to watch out for those "free lunches."

Sincerely,

Rebecca Miller

Rebecca B. Miller

Attachments

P.O. BOX 507 · ANTHONY, NM · 88021
PHONE: 505.882.9874 · FAX: 505.882.9875

Conservation Easements Put Money In The Wrong Pockets

by Dave Skinner

Alamogordo, NM (PFNS) Like most people, I am concerned with the gradual, and sometimes not so gradual replacement of our wide-open spaces with housing. I've seen more than a few of my favorite hunting and fishing spots, and my favorite neighbors, disappear forever.

It's a bad situation, made worse by conservation easements.

To explain, I must get into agricultural reality a little.

I recently attended a "conservation festival" put on by the local enviros, complete with group howls and off-key singing about the "wild Montana sky." But one of the less-silly items on the agenda was a lecture by Dave Heine, a high school classmate of mine who went into farming after college. The economics were such that he's now a real estate broker, a very good one, specializing in agricultural properties.

Dave told festival attendees that from a purely agricultural standpoint, grazing ground is worth $65 per acre. Cropland is worth up to $165 for row-crop irrigated ground. Good timberland runs $200 per acre. That dovetails pretty closely to the sick fact that ag producers are lucky if they can pull down a 2 percent return on investment. Most checking accounts pay more, and they don't ask you to slave 24/7 either.

Trouble is, the value of these same lands as residential properties is far greater. Farmland goes locally for a minimum of $10,000 per acre for house lots, while wooded parcels go for $20,000, even more if there's a great view.

It seems like a no-brainer for farmers to sell out, but I know firsthand that ag producers put their hearts into what they do, and there's the rub. The brain says: "Prices stink, thanks to market concentration and terrible federal ag policies, exacerbated by a consumer base that thinks food comes prepackaged from Safeway." The brain also says: "Costs are terrible, with expensive equipment, fuel, taxes, and all the rest???never mind the weather." The brain knows others control ag producers' costs and revenues, a situation, which, over the long run, is a guaranteed loser. So the brain says: "Sell for what you can get."

But the heart answers: "Look at those beautiful, sleek cattle and run your hands through that tall grain. Smell the rain! The dirt! Sell the family place? Never!"

Into this battle between the brain and the heart comes the nice, clean-cut land conservancy agent. The agent offers 30 percent on what a developer will pay and says "You get to farm some more, but we call the development shots."

The farmer signs on the dotted line, gets a cash payment and a tax break, and everyone's happy. Right? Wrong! The fundamental problem of high costs and low prices still hasn't been addressed.

After thirty more years of crappy prices, the operating trust is spent down. Broke again, the farmer or heirs want to sell, but they already sold the development rights to the trust.

The trust lawyers can then argue the conservation easement (CE) payment was the purchase of a share in the property, as in: "At 6 percent compounded daily, our interest in the development rights is now eighty gazillion dollars. You can't sell them, and if you try, we will sue you for our interest, leaving you nothing. But if you donate us clear title to us, we'll tell the Internal Revenue Service to give you a nice write-off. After all, we're a 'nonprofit'."

And once the trust has clear title, what happens? Will the trust operate the farm and pay taxes on it? No!

For example, The Nature Conservancy (TNC) is not operating the Baca Ranch, and never will. The Baca is to be sold to the federal government once the funding is appropriated. The Greenland Ranch out by Monument is to be partly transferred to the state, while a "conservation buyer" takes the rest in a deal brokered by The Conservation Fund. While the Greenland was bought at a high price, the biggest advocates of the deal ? the land trusts ? didn't actually pay for what they got. That's not the point.

The Trust for Public Land (TPL) is quite straightforward about its mission. Its 2000 tax form says it spent $70 million on "acquisition and conveyance of open space and recreational land to public agencies." But TPL only conveyed $34 million worth of land that year, at a net gain of $97,844, while cashing in $29 million in securities. Also, of TPL's $231 million in 2000 assets, only $3.2 million was "land, buildings, and equipment."

It seems to me that if trusts were truly altruistically interested in buying land and saving it, either privately or for the public, they would pay full price to the private landowner and then donate the land. But they don't, not when they can gain control through below-market, irrevocable conservation easements, or broker deals bankrolled by others, i.e., the public.

How do I think our open spaces should be preserved? Not the way they are now, with discounted, irrevocable conservation easements.

Ag producers who take a discounted CE are merely delaying the inevitable. They will, in most cases, wind up losing their land anyway because it is just too valuable for non-ag purposes.

Even worse, the "discount" inherent in most conservation easement deals comes out of ag producers' already empty pockets, to the advantage of wealthy land trusts and second-home owners who live nearby and want wide-open spaces surrounding them. That's fundamentally unfair, and there's really only one way to correct this unfair situation:

Land trusts, like all other buyers and sellers, should always pay full present value to farmers or ranchers for their land. In short, buy it outright. That's what "fair market value" is.
If the trusts are really concerned about keeping producers producing, they should be happy to grant sellers first rights to an irrevocable option of continuing to work the parcel. Then the sale proceeds (controlled by the seller) can become an operating trust, to be used to buy another farm or ranch, or applied to the securities market, or put into the kids' education, or spent on one heck of a condo in Monaco.

Properly done, a full-value deal can serve the landscape and the people who made it into what it is. If that's the entire point of land conservation, then why isn't that the way land trusts now operate?

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Paragon Foundation News Service is a public service of the Paragon Foundation, Alamogordo, NM
1-877-847-3443

For more information, go to: **http://www.paragonpowerhouse.org/**

J. Zane Walley,

1003 Words

Conservation Easements
Rescuing Private Property Or The Ruination Of Future Generations?

By J. Zane Walley

Article and research funded by a grant from the Paragon Foundation

Article one of Six

There is no question that this series of articles will brew a storm of controversy. Hopefully, they will spark debate on this murky and potentially risky property option. Conservation easements (CEs) are viewed as a saving grace by many private property owners and as an irreparable mistake by others. Most property owners are still scratching their heads trying to figure out inherent pros and cons, but practically all agree that the long term actuality of selling or giving a CE will not be known for generations.

The major contention is that a CE could save family land from the taxman upon the demise of the owners, but would, through inevitable economic conditions, force heirs to sell the property at greatly discounted prices to the organization holding the easement. The pro-easement camp believes that the financial and tax advantages are sufficient to guarantee family land can remain with kin perpetually instead of being subdivided to pay taxes.

There are no simplistic explanations on the pros and cons of conservation easements because they are infinitely complex. In these articles, I'll present hard facts,

To view a sample Conservation Document go to <http://landtrust.org> and scroll down the right-hand column to "Michigan Model Conservation Easement."

To order Carol W. LaGrasse's excellent research paper "Conservation Easements, A Critical Commentary" write or call "*The Property Rights Foundation of America*, P.O. Box 75, Stony Creek, NY 12878, (518) 969-5748.

Paragon is a Constitutional rights foundation headquartered in Alamogordo, New Mexico. Visit the Paragon Foundation Website at http://www.paragonpowerhouse.org. To receive the free monthly Paragon Foundation Newsletter or the entire series of conservation easement articles, call toll free 1-877-847-3443. Speakers on conservation easements are also available (at no charge) to address your organization.

Fact Sheet

Long Term Implications of Conservation Easements

Feb. 25, 1998

Analysis by Gina Brosig

http//www.fb.com/issues/analysis/easement.html

Chapter 183 of the Texas Natural Resources Code defines a **conservation easement** as a non-possessory interest of a holder in real property that imposes limitations or affirmative obligations designed to do any of the following:

- retain or protect natural scenic or open-space values of real property or assure its availability for agri-cultural, forestal, recreational or open-space use;
- protect natural resources;
- maintain or enhance air or water quality; or
- preserve the historical, architectural, archaeological, or cultural aspects of real property.

A "holder" may be either a governmental body or a charitable organization, association, or trust created or empowered to affect the outcomes listed above. **Conservation easements may be enforced by a third party who is not a holder**, but who is eligible to be an easement holder. Furthermore, the easements are assignable and are unlimited in duration unless the instrument that creates them states otherwise.

Conservation easements are becoming a more popular tool for governments to control the uses or private land without actually having to purchase the property in fee simple. Private landowners who are looking for tax write-offs often enter into these easements for the income tax benefits and for the lower property taxes that follow when the value of the land falls as a result of the easement.

There are several good financial reasons for entering into conservation easements. First, if a conservation easement is granted in perpetuity, the landowner is entitled to claim a deduction on his or her federal income taxes. Furthermore, since the conservation easement lowers the value of the property, it also lowers the value of the landowner's estate and, ultimately, the estate tax burden as well as the property tax burden.

The Problem

Black's Law Dictionary defines an easement as a "right of use over the property of another." However, in a traditional easement, a grantee's use is limited. For instance, if a landowner grants an easement to an oil company or an electric utility, the easement is limited to that purpose only and it imposes no further obligation on the landowner and confers no special rights to the grantee beyond the original purpose of the easement.

Conservation easements, on the other hand, are more like restrictive covenants than easements. A grantor who enters into a conservation easement agrees to dedicate the portion of his property encumbered by the easement to a specified use (or non-use as the case may be) or agrees to adhere to specified practices thereon-in perpetuity.

Common law dictates that the original parties must intend for the restrictive covenant (conservation easement) to run with the land and the covenant (conservation easement) must bind the parties and their assigns. In other words, **a landowner who enters into such an agreement not only signs away his right to change the use of the land, but also gives away the rights of any future owner to change the use of the land.**

When a landowner dies, the heirs inherit the property along with whatever affirmative obligation is required by the terms of the conservation easement. For example, if the original owner of the land agrees to perform certain management practices, the heir must continue the practices as long as he owns the land. **If he doesn't or if he doesn't do it to the satisfaction of some third party, he can be sued by the third party for breach of the terms of the conservation easement.**

Conservation easements do provide excellent tax breaks for landowners in the short run. In the long run, however, private property owners are actually hastening the transfer of private land into public hands. Because conservation easements place an affirmative obligation on every subsequent landowner, it seems only logical that at some point in time, an heir who cannot afford to adhere to the terms of the easement will look for a way out.

When that happens, the pool of potential buyers is going to be fairly small. Only an individual who is willing to assume the duties prescribed under the terms of the easement, or a governmental entity looking for cheap "park land" will be interested.

Furthermore, since the property has lost its productive potential because of the easement, the selling price would likely be quite low. If the distressed heir could not find an individual interested in owning property with encumbrances, he might then consider donating the land to some governmental entity or nonprofit land trust, take advantage of the federal income tax benefits that come with charitable contributions, and not look back.

Certainly, property owners have the right to do with their land as they please, while they are alive. However, by encumbering the property through such a mechanism, they have denied all future owners the right to decide how they wish to use the land. **By entering into a conservation easement, the private property owner has set the stage for the government to eventually take full possession of the land.**

Landowners should consider carefully the long-term consequences of conservation easements and the burdens they place upon their heirs. If a landowner's purpose in granting an easement is to lower the value of the property and to qualify to tax breaks, then it is a good idea. However, if the landowner believes that a conservation easement guarantees that the land will be cared for and properly managed into perpetuity, he should reconsider. **Private ownership holds the greatest hope for protecting natural resources and a conservation easement that encumbers private land and limits its uses forever, will only guarantee that sooner or later, the land will be owned by some governmental entity.**

MYTHS ABOUT CONSERVATION EASEMENTS

The one item that is left off - if the owner (NGO or Government) of a conservation easement determines that a property owner is not managing the property properly for conservation they can take the property owner to court. Property owner has to pay all the LEGAL FEES, COURT COST AND FOR WHATEVER CORRECTIVE ACTION THE NGO OR GOVERNMENT DETERMINES IS NEEDED.

How many property owners have deep enough pockets or a staff of attorneys to take on - oh say the Nature Conservancy of BLM or Forest Services?

"Perpetual" means 99 years.

FALSE. Perpetual is forever. There is precedent for breaking an easement through eminent domain when a strong public need is found, but two rural water systems in North Dakota were denied access to easement property and were forced to reroute their trenching. This costs all users of the system time and money. What happens when new telephone or electrical lines are needed?

When I sell a conservation easement on my property, I retain full title to the land.

FALSE. The title becomes split between the landowner and the holder of the easement. Many easements allow sale or transfer of the easement title to other organizations or agencies, so you may find yourself or your heirs with an entirely different partner than the one to whom you sold the easement.

A conservation easement will preserve my property just as it is, forever.

FALSE. Land changes. Each season brings change to the land. Some changes are major and others minor but, over time, even with no intrusion or help from man, land will change.

I can't trust my heirs to manage the land property, so a conservation easement is the only way I can make sure the land is managed according to my intent.

FALSE. While a conservation easement may be an option, there are other options open to you. One of those options might be to sell the land to a private owner who views management as you do. Such a sale might be a contract for deed or living trust situation so your property retains value which can be handed down through your estate and the property remains in private ownership and the title free of impediments.

(This is another reason to consult an attorney and accountant with experience in estate planning, taxes, property transactions and easements before signing an easement.) Remember that, while the easement might allow for "normal management practices," the definition of that term may change over time and in ways you can not imagine now. Selling an easement to be managed in conjunction with an organization or agency does not guarantee a particular management practice for years to come.

The purchasing agent seems like a nice person so I don't need anyone else to review the easement contract before I sign.

FALSE. The purchasing agent wants something that you have - your property. It is in that person's best interest to be pleasant and agreeable. The purchasing agent works for someone else - not you. In any type of land transaction, you need professionals (an accountant and attorney) with experience in easements, tax, estate planning and property transactions to represent you and your best interests. If you are dealing with a perpetual easement, you want to double and triple check the contract.

Most land sales deal only with the property until it is sold, but a perpetual easement is forever.

Keep in mind that, however pleasant the purchasing agent is, that will likely not be the person with whom you will deal on easement management issues and will certainly not be the person to manage the easement during its lifetime. Many easement contracts allow the easement to be sold, so your heirs or future owners of the property may end up dealing with an entirely different organization or agency holding the easement. That's why you need professional assistance to look at all of the options before you sign a contract.

Easements on agricultural property in North Dakota are limited to 33 years.

TRUE AND FALSE. North Dakota law allows only certain organizations and agencies to hold easements, and those easements are limited to 33 years. However, Federal agencies are not bound by state law, so organizations may purchase perpetual easements if the title is given to Federal agencies. While this violates the spirit of the law, it is technically legal in the mind of some officials.

If I sell a conservation easement, I can still use my property just as I always have.

FALSE. No, you give up control of all property covered in the easement. ***Forever!*** There will be an organization or agency with the power to look over your shoulder and approve or disapprove your management practices. Most easements require you to give access at all times, even during the growing season when access can damage crops. You may have to obtain approval for weed control, grazing or other management practices. Many easements allow "approved" practices, but may not list specific practices. That's a loophole in the contract that allows the easement holder to change the list of approved practices without your consent.

My neighbor sold a conservation easement last year and he hasn't had any trouble, so my heirs and I won't.

FALSE. Perpetual easements generally don't cause problems right away. But wait 20 or more years and see what problems crop up. Thousands of acres of wetland easements were sold in eastern North Dakota during the 1960's and 70's, but most landowners didn't experience problems until the next generation took over the property. Now basic terms seem to have been redefined and boundaries covered by the easement changed. The original maps were "lost" or "are not available." Many of these landowners would love the opportunity to buy back the easement and regain control of their property.

We're developing too much land now. If we keep up at this rate, we're going to be all developed and not have agricultural land.

FALSE. According to the National Conservation and Resource Service's (NRCS) 1997 National Resources Inventory, the rate of development of agricultural land in North Dakota for 1992-97 was approximately half of the rate from 1987-92. Development has slowed and North Dakota is losing population. We are not in danger of running out of agricultural land.

A conservation easement requires you to allow hunting.

TRUE or FALSE, depending on how your lease reads. Many conservation easements currently sold in North Dakota are governed by the National Wildlife Refuge System Administration Act, so you need to read the fine print to see all of the requirements. You may find it interesting to note that many of the funds and support for purchasing conservation easements come from hunters who believe they will have automatic access to your property, but that isn't always required.

Selling property with a conservation easement will be easy.

FALSE. You are required to inform the buyer a conservation easement exists. This may lessen the value of the property, the number of people willing to share title with an organization or government agency, and the number of banks willing to lend money for a loan to purchase property with a split title.

Some easements require the bank to take a secondary interest in deference to the easement. This can dramatically decrease the willingness of a financial institution to loan money on the property. Because the holder of the easement already owns part of the title, they may have an interest in purchasing the remainder of the property. If this is a non-profit organization or Federal agency, that may take the property off tax rolls, which increases taxes for surrounding property owners.

I need money right now and a conservation easement will put cash in my pocket.

TRUE or FALSE. If your land is mortgaged, chances are the conservation easement payment will go directly to the lender and may be used for the interest payment instead of reducing the principle. Read the fine print. Regardless, you are responsible for paying income taxes on the full amount of the easement. Selling an easement may actually harm your cash flow because of the tax complications.

Shorter term (30 years or less) easements are better than perpetual easements.

TRUE. Easements of a shorter duration allow future generations more options and flexibility in managing their property. But short term easements still give up control of your property, so it pays to talk to professionals before you make any decisions.

Conservation easements are the only way to protect native sod.

FALSE. Most of the land suitable for cultivation in our state has already been broken. There is no incentive for breaking more land unless tillage is the only effective means of weed control. Some of the land identified as "native sod" for the purpose of conservation easements was farmed within recent memory. If the characteristics of native sod cannot be distinguished between that which was never plowed and farmland which was planted back to grass, then landowners must be doing a pretty good job managing their prairie. If we need more prairie, we can always convert more farmland to grass. It just takes ingenuity North Dakota landowners already possess.

My easement allows "normal management practices," so anything I normally would do with my property will always be allowed.

FALSE. While the easement might allow for "normal management practices," the definition of that term may change over time and in ways you can not imagine now. Selling an easement to be managed in conjunction with an organization or agency does not guarantee a particular management practice for years to come. Many easement contracts allow the purchasing organization or agency to sell or transfer title to the easement, so it may be an entirely different entity who interprets "normal management practices," for your heirs or future owners of this property.

Conservation easements will save me money in taxes.

FALSE. If you own land valued at $100/acre and sell a conservation easement for $30/acre, you pay income tax on the $30. Since this was a sale of a tangible piece of your property your basis for tax purposes in the property is reduced to $70. When you sell the land if it appreciates the difference in sale price over the $70 becomes taxable. Hence you pay tax on the $30 during the second sale.

RG-510

EBID

Elephant Butte Irrigation District
Of New Mexico

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June 28, 2002

Mr. Douglas Echlin
Environmental Protection Specialist
International Boundary and Water Commission
4171 North Mesa, Suite C-310
El Paso, TX 79902-1441

Re: Comments on International Boundary and Water Commission Pre-Draft Environmental Impact Statement (EIS).

Dear Mr. Echlin:

Following the meeting several weeks ago at which representatives of the IBWC and Parsons Engineering made a presentation to the Elephant Butte Irrigation District Board (District), it was agreed that we would provide comments to the IBWC on their pre-draft of an EIS for the IBWC's operations South of Elephant Butte Reservoir.

Water Rights Issues

The draft documents prepared by IBWC make a fundamental assumption, which is incorrect. There is no provision under New Mexico's water laws for water savings from removal of salt cedars and other plants to be acquired by one who causes such water savings. Water savings from salt cedar removal has proven to be an uncertain proposition. Some of the assumptions used by IBWC are that relatively immediate water savings will result from removal of salt cedars and that the water saved will be immediately available for use by other plant communities in the areas that IBWC seeks to create meanders, riparian growth and the like. The state of the law in New Mexico is such that any savings that result from the removal of salt cedar inures to the benefit of the river, which in turn inures to the benefit of the Rio Grande Project. All water that reaches the river below Elephant Butte Reservoir, from tributaries or by any other means, becomes project water and is allocated to the District and the El Paso County Water Improvement District #1 (EPCWID). Should IBWC undertake actions to actually save water through its not being used by salt cedars, which are removed, IBWC does not become the owner of that water and does not control its use. Rio Grande project water supplies are always deficient, particularly during a drought, and any water savings in the system belongs to and will be used by the irrigation districts. Therefore, any

assumption that water savings will be available for use for other plant communities in the IBWC project is legally and factually erroneous.

This is a serious problem in the legal and institutional underpinnings of the analysis by IBWC. Since there is no means by which IBWC can acquire water or water rights through water "savings" within the property IBWC controls adjacent to the Rio Grande, the proper analysis to be reviewed in any environmental document by IBWC should be the acquisition of water rights from willing sellers in the area. The economic, social and environmental effects of the purchase and transfer of water and water rights out of agricultural and other uses and into in-stream or similar uses by the IBWC must be fully analyzed in an EIS or other environmental document by IBWC. Since IBWC relied upon a false legal and institutional presumption in the existing documentation, it must revise that documentation in accordance with the legal and physical realities of the river.

In accordance with the revised analysis of water and water rights, IBWC must also evaluate the effects of its proposed actions in light of a drought scenario. Since IBWC seeks to reestablish, or establish anew, riparian vegetation along the river, it will necessarily rely upon surface water flows. In the instance of a drought in this part of the state, surface water flows will be limited or nonexistent. Therefore, any assumption by IBWC that the acquisition of water rights will provide a minimum reliable annual supply is incorrect under drought conditions.

Prior Environmental Analysis Required

The IBWC entered into a Memorandum of Understanding with the Southwest Environmental Center (SWEC) in March 1999 under which certain physical actions were taken by IBWC, specifically the establishment of "green zones" and test areas along substantial stretches of the Rio Grande. Additionally, IBWC cooperated with SWEC in planting trees in IBWC-controlled areas from 1999 on. The tree planting actions have an obvious effect upon the availability of water in the Rio Grande system. There needs to be made a realistic estimate of the annual water use by all trees planted with the IBWC right of way and an environmental analysis needs to be undertaken of the water use by these newly introduced trees. Again, any new water use created by actions of the IBWC must be offset, minimally, by the acquisition of water rights in an equal amount by IBWC. Otherwise, IBWC is taking property rights (water rights), which belong to others and for which no compensation has been paid. We believe that an analysis of property takings under applicable executive orders should also be undertaken.

The establishment of green zones, the planting of trees and other environmental analysis under the National Environmental Policy Act (NEPA). The MOU should have been the subject of environmental documentation shortly after it was entered into in early 1999. The fact that it was not does not excuse its evading environmental review at this time. As IBWC well knows, just because effects of a federal action may be considered positive to the environment, this does not excuse environmental review. Furthermore, NEPA requires not only the review of environmental effects but social and economic effects as well. We understand that IBWC may claim that the MOU did not need environmental review due to a categorical exemption or some other exclusion from NEPA. We have seen nothing that excuses the MOU from NEPA compliance.

Furthermore, even disregarding the absence of environmental review of the 1999 MOU, the present analysis by IBWC considers all actions taken under that 1999 MOU as the environmental baseline for consideration of effects analyzed in the present document. This is a false presumption and must be corrected. NEPA requires a federal agency to analyze under NEPA all of its actions, not just those incremental actions recently undertaken. The environmental baseline must be the situation that preceded the 1999 MOU and the present NEPA document must undertake consideration of all of the actions taken by IBWC that will be part of an alternative selected by IBWC in its Record of Decision that results from this environmental documentation. It appears from the present documentation that all of the alternatives will take into account the establishment of the existing "green zones" and all of the tree planting and other efforts undertaken by IBWC as a result of the 1999 MOU. Therefore, it is a serious flaw in environmental documentation if those actions are not analyzed in this EIS.

Mandate to Proceed

The draft documentation is noticeably absent in explaining the mandate or even the motivation to proceed in the direction that it is preceding on this EIS. This does not appear to be an EIS on the scope of operations of the IBWC, because none of the statutory or other mandates of the IBWC include environmental enhancement or riparian restoration. There is little or nothing in the documentation that discusses the primary functions and duties of the IBWC and evaluation of those functions in the EIS documentation. It was made clear to EBID that this EIS is not motivated by concerns under the Endangered Species Act, nor by any action taken or proposed to be taken by the U.S. Fish and Wildlife Service. Similarly, there is little or no discussion in the existing documentation as to the amount of financing and the source of financing for the activities sought to be undertaken for riparian restoration and the like. With the capital costs for each alternative, except the no action alternative, ranging from $65 million to $204 million, this discussion would seem to be essential, as well as a full discussion of the annual maintenance expenses that IBWC anticipates. The bottom line issue appears to be whether any of these alternatives are economically feasible, and if claimed to be economically feasible, what the source of funding is expected to be. Without any explanation of the mandate or motivation for preparing the EIS and examining alternatives that are drastically different than existing management, the EIS appears to be driven by a simple fear of litigation from certain environmental groups. With the EIS cost estimated at over $1.6 million, an examination of the merits of any threat of lawsuit would appear to be in order.

Some if not all of the alternatives examined in the EIS constitute substantial deviations from the primary purpose and duty of the IBWC. The EIS should properly analyze and evaluate how substantial these deviations will be from the statutory duties of the agency. The deviations from the duties of the agency should in turn be evaluated for their environmental, economic and social effects upon the people and land in southern New Mexico and western Texas that will be affected. EBID believes that these effects will be substantial, and they cannot be ignored or understated in the EIS. For example, taking water out of productive use by either of the irrigation districts within the Rio Grande Project will have substantial economic and social effects and these effects must be examined in the EIS. Since any consumptive water use by IBWC cannot be made without a commensurate acquisition of water rights by IBWC, the social and economic

effects of such an acquisition and the reduction of the productive use of those water rights would have to be evaluated.

Technical Issues

The flood simulation model is based on the Army Corps of Engineers 1996 study. The authors state that their assumption in the Alternatives Formulation Report (AFR) is overly conservative because they do not account for attenuation of the design flood moving downstream. They suggest two-dimensional modeling to simulate the attenuation of the floodwave. In looking at the design hydrograph on page 8-2 of the AFR, it appears that the attenuation of the floodwave is included in the input hydrograph. The authors also state that as part of the EIS, the USACE model was verified. We see no evidence of a verification of the model in either the EIS or the AFR. This would be a valuable exercise. One well-documented flood that comes to mind that would be of relevance would be the 1999 flood of about 7200 cfs at Mesilla Dam. While it stayed in the main channel for nearly its entire run, it would provide verification of at least the main channel model. If the model of the observed flood showed the water stage going out of the main channel for significant distances, we would know there were problems with the model.

We will review the 1996 USACE study to be sure we understand it. The Parsons modifications to that model are extremely sketchy, other than to say that they adjusted the roughness to account for vegetation in areas of restoration activities. They did include many pages of cross section data in an appendix of the AFR, but it doesn't do much good unless we can get it digital. We suggest IBWC allow us to review that model. We suspect there are problems with it. When Parsons and IBWC made their presentation to the EBID Board, we all had the same immediate reaction: What about debris obstruction? This will be a major factor in any flood, but particularly if riparian vegetation is allowed to develop between the levies to supply and trap debris. We would also be interested in their hydraulic representation of the diversion structures, siphons, and bridges.

Debris effects notwithstanding, we are surprised that Parsons found that "extensive vegetative growth in the floodway is not a significant factor in the flood containment capacity of the Canalization Project." This is counter to our intuition, based both on basic hydraulics and a fair bit of experience with river modeling using HEC-RAS. As we look at the proposed remediation measures they are proposing, it is difficult to believe that they would not have a significant impact on flood stage, which will be all the worse when obstruction by debris is considered. It would be very productive to have a look at the original model and the modified one, as we have many questions that can be answered no other way. We may want to meet with their modelers to discuss it after we have had a chance to look at their inputs and run the models.

In addition to the concerns expressed earlier regarding the legal feasibility of offsetting restoration efforts with water conservation, we are also concerned that, while water conservation measures to be used to save water to support the environmental enhancements are not specified, the oversimplified understanding of the hydrology of the system demonstrated by the consultants in the meeting with the EBID Board makes the concept of creating water through conservation even less feasible. Reduction of canal seepage by ditch lining does not create water. Reduction of deep percolation

"losses" does not create water. Both of these hydrologic components are, for the better part, not losses at all, but a return cycle that helps maintain our hydrologic health and drought reserve. The water conservation measures that would yield water would be reductions in consumptive depletions, such as through planting of lower water use crops (a market driven choice) or fallowing land. The jury is still out on the effect of salt cedar eradication on increasing river flows. We are not confident that reducing ET by removing salt cedar from Selden Canyon, for example, will yield water on a one-to-one basis further downstream. If the EIS does not convince us otherwise by specifically addressing the hydrology of the water conservation measures they propose to use to feed the consumptive water needs of these alternatives, and the institutional arrangements they plan to develop in order to put the conserved water to restoration activities, it is clear to us where the water will come from: EBID constituents.

Finally, it appears that each of the alternatives is not physically or legally, not to mention financially, feasible and therefore none are implementable. Physical constraints, as well as institutional and legal constraints, must be adequately analyzed in the EIS, particularly as to whether they reasonably can be implemented, and if they can be implemented their full effects upon the physical, economic and social environment must be adequately measured. The only acceptable alternative in this EIS is maintaining current O&M (no action).

Sincerely,

Gary Arnold, President
Board of Directors

CC: Phil King
Ted Cox
Jack Darbyshire
H&H, P.A.

PARSONS

RG-511

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July 3, 2002

Commissioner Carlos Ramirez
United States Section, International Boundary and Water Commission
4171 North Mesa, C-310
El Paso, TX 79902

Ref.: May 31, 2002 letter from Southwest Environmental Center (SWEC) to USIBWC Commissioner with regard to the draft Environmental Impact Statement (EIS) for the Canalization Project

Dear Commissioner Ramirez:

Parsons has been provided a copy of the above referenced correspondence for review and comment. This letter is in response to issues raised by SWEC regarding the reformulation of alternatives for future management of the Rio Grande Canalization Project (RGCP). Those issues were initially presented in a November 29, 2001 letter addressed to Mr. Doug Echlin, and partially reiterated in their more recent correspondence.

Parsons has clearly benefited from SWEC's input in the reformulation of alternatives, particularly in scoping the targeted restoration alternative, and has found numerous areas of agreement, as acknowledged in their correspondence.

There are, however, three key areas in which our understanding of project conditions differs from those stated by the SWEC:

1) Their belief that improvements to flood control are the key mechanism for stream restoration and environmental enhancement;

2) Their perception that the most significant changes in stream condition were induced by RGCP construction; and

3) Their view that re-creation of perceived previous conditions pre-dating the RGCP is not only achievable but the basis for sustainability of environmental improvements.

Our perspective on those issues is discussed in general terms below. Item-by-item responses to issues raised in the November 29, 2001 SWEC correspondence are presented in tabular form as an attachment to this letter.

Condition 1: Improvements to flood control are the key for stream restoration and environmental improvements in the RGCP.

While this concept is valid for river systems with large recurrent floods, such as the Mississippi-Missouri, its application is incorrect to the Middle Rio Grande where flows are tightly controlled by a series of upstream reservoirs. Only a handful of significant flood events have been documented in the 60+ years of operation of the RGCP. Assumptions supporting that misconception are the following:

1) The 100-year flood creates sustainable conditions for stream restoration. This assumption is incorrect because, by definition, that flood is a rare and very disruptive event that does not lead to establishment of riparian vegetation. It is actually the smaller, more frequent floods (i.e. those with 1 to 5 year recurrence) that cause some of the flow to leave the channel and create moist-soil conditions in sections of the floodway that are favorable for development of cottonwoods and other native vegetation. These conditions are usually referred to as overbank flow. For this reason the reformulation of alternatives was focused on quantifying and mapping areas susceptible to limited overbank flows during those smaller, more frequent floods.

2) More complex hydraulic modeling will uncover additional opportunities for restoration. The opposite rationale is actually true. Current estimates of levee deficiencies and potential flood risk will be reduced with the use of two-dimensional models because they account for the attenuation of flood peaks as they spill into the floodway. The lesser the need to address flood control problems, the lesser the opportunity and practical justification to relocate levees or incorporate other non-structural control measures.

3) Significant riparian habitat can be gained by acquisition of land or flood easements outside the levee system. Potential riparian and aquatic habitat improvements are located on the floodway under USIBWC jurisdiction as most floodable lands were retained, by design, within the current right-of-way (ROW). For this reason the targeted restoration alternative focuses primarily on these areas. Creating additional floodway area does not address the fundamental issue of river channel/ floodplain dissociation. Those easements would be elevated relative to the stream banks given their purpose of containing a storm likely to occur once in 100 years.

4) Use of non-structural approaches has been dismissed. This is incorrect as the analysis on non-structural flood control methods has been retained but differed until completion of the levee structural integrity study provides a full picture of potential deficiencies. Unlike non-structural flood control programs implemented for rivers with recurrent flood events --in which use of non-structural methods provides flood protection as well as environmental benefits-- the use of non-structural flood control methods in the RGCP is primarily an economic and risk-management decision.

Condition 2: The most significant changes in stream condition were associated with RGCP construction.

While the RGCP reduced diversity of the aquatic habitat by creation of a relatively uniform channel, upstream flow regulation was clearly the key factor that determined floodplain geometry. That flow control pre-dates by several decades the construction of the RGCP. Assumptions associated with this misconception are the following:

1) The length of the RGCP was severely reduced by canalization. The estimated reduction was approximately 10.5 percent due to channel cutoffs (10 miles over a 95-mile length of controlled flow channel). Reopening of most meanders in the Rincon Valley is proposed as part of the targeted restoration alternative (meanders now located outside the ROW and usually urbanized were excluded).

2) Current stream bank configuration is retained by active control methods. Current O&M require relatively little control of bank geometry given the upstream flow regulation. Since 1961 there has been little need for additional bank stabilization using riprap.

3) The levee system dictates the extent of the active flood plain along the RGCP. This is an incorrect assumption since the narrowing of the flood plain was actually induced by upstream flow regulation, not by the presence of the levees. With few exceptions the active flood plain is well within the levee system and, under the current flow regime, will retain its current configuration even if the levees were repositioned farther away from the stream for flood control purposes.

Condition 3: Return to a perceived previous stream condition is the basis for restoration and its sustainability.

In reality, sustainability depends on proposing actions that can be implemented with the current heavily regulated flows, and fully allocated land and water ownership. Other factors such as flood control levees, water conveyance structures, maintenance mowing, and bridges, while visually intrusive to native river scenario, must be considered secondary with regard to impacts. Assumptions associated with this misconception are the following:

1) The restoration goal is to mimic historic flows. The dynamic equilibrium of the river is no longer reflected in historic flows, native vegetation communities, or potential channel migration patterns, but rather one, which is defined by controlled releases and managed flows perturbed only by episodic flood events. The challenge is not restoring a river to historic conditions, but improving the environmental conditions of a river that for all practical purposes now functions as a water conveyance and delivery system.

2) Proposed restoration actions are not far reaching. Despite the constraints on implementing environmental improvements, numerous opportunities were identified for partially restoring riparian and aquatic habitats. For example, the potential riparian corridor in the RGCP north reach would be comparable in length to that of the Bosque del Apache National Wildlife Refuge in the Middle Rio Grande. Those environmental improvements can be implemented in a sustainable and feasible manner taking into account that the establishment and sustainability

of native species-dominated communities will require active regeneration actions and exotic species management. As formulated, the alternatives provide a suite of environmental actions that enhance and partially restore river form and function.

3) Extensive manipulation of stream flows is desirable and can be achieved. A proposal for significant manipulation of stream flows using water owned by the agricultural community, far from providing sustainability to the restoration actions will render the alternative as non-viable from the start, and it will likely be doomed to fruitless litigation. It constitutes a "poison pill" concept to be avoided in the formulation of alternatives, as correctly pointed out by SWEC in previous correspondence with regard to the cost analysis.

The view that partial restoration can be achieved within the current stream configuration and water availability was adopted in 2001 by the Bosque Hydrology Group (BHG) as the rehabilitation concept for various reaches of the Middle Rio Grande. The BHG, a multi-agency and multi-university cooperative effort dedicated to implement the 1993 Bosque Biological Management Plan, characterized the future stream condition as "a scaled down mini Rio Grande."

Clearly the three items listed in the SWEC May 31, 2002 letter reiterate those three previously discussed misconceptions, particularly the misplaced belief that additional hydraulic modeling will offer yet-to-be-discovered opportunities for restoration and somehow ensure sustainability of a restoration alternative.

I hope this reply provides a broader perspective as to how the alternatives were reformulated, and key areas of disagreement with SWEC. In the EIS preparation Parsons strived to formulate alternatives that were viable, implementable and, as specified by USIBWC, responsive to the stated concerns of the various stakeholders, including SWEC and the irrigation districts. Please give me a call, or Dr. R.C. Wooten, at 512-719-6000 if you have any questions or comments.

Best Regards,

Carlos Victoria-Rueda, Ph.D.
Project Manager

CVR:sgk
Attachment

XC: Principal Engineer Carlos Marin, USIBWC
Principal Engineer Debra Little, USIBWC
Division Engineer Sylvia Waggoner, USIBWC
Mr. Doug Echlin, USIBWC
Dr. R.C. Wooten, Parsons
Mr. James Hinson, Parsons

Discussion of Key Issues Raised by SWEC in their November 29, 2001 Correspondence to USIBWC with Regard to the Formulation of Alternatives Prepared by Parsons for the EIS for Future Management of the Rio Grande Canalization Project (RGCP)

	Summary of Key Issues	Discussion
1.	Restoration activities must address overbank flood frequency and duration. a. Overbank flood by lowering bank and/or, higher flows; b. Revegetation; c. Increased sinuosity, and reopened meanders; and d. Greater channel width-to-depth ratio	Parsons fully agree with that premise which was incorporated in the formulation of alternatives, and led to an extensive analysis of those four actions. The first three actions were incorporated into the Targeted River Restoration Alternative, while actions "a" and "b" were incorporated into the Integrated Land Management Alternative. Action "d"(channel cross-section modification) was addressed only to a limited extent --for development of aquatic habitat near arroyos-- as its extensive use would conflict with the water delivery mission of the RGCP
2.	Floodwave attenuation is directly related to flood risk and levee deficiencies	This is a correct statement, but unrelated to the objective of this EIS, evaluation of potential environmental improvements. Flood control will be evaluated in the future once structural integrity of the levees is documented.
3.	Alternatives formulation did not include accurate understanding of flood movement. "*We were under the impression that one of the impetuses for this EIS was the somewhat urgent need to address perceived levee deficiencies.*"	With a single exception (a 3-mile segment in the Canutillo area) there is no such urgent need to address perceived levee deficiencies. Given the tightly regulated upstream flow few significant flood events, all contained within the levee system, have been registered in 60+ years of RGCP operation. The goal of the EIS is not to evaluate flood control improvement --a task conducted routinely by USIBWC as part of its mission-- but to assess current RGCP operations for improvement of environmental conditions. As stated in the MOU: "*The scope of the EIS will include analysis... to determine to what extent project management can support restoration of native riparian and aquatic habitats, as well as restoration of natural fluvial process such as channel meanders and overbank flooding.*" The alternatives for the EIS were formulated in accordance to that specific goal, and subsequently reformulated based on input from SWEC and other stakeholders. Coupling of flood control measures with riparian ecosystem improvements has been successful in riverine systems with large recurrent flood events, but have a very limited potential in the case of the Middle Rio Grande. For example, following the devastating 1993 flooding in the Midwest the Interagency Floodplain Management Review Committee reported that many districts with levees designed for high magnitude floods had actually been flooded 5 to 10 times during the previous 50 years (Shannon E. Cunniff's April 10, 1997 testimony to the House of Representatives Resources Committee). Unlike the RGCP case, there was a pressing need and opportunity to re-evaluate control strategies for the "100 year" flood using non-structural methods. A proposal for further evaluation of flood movement in the RGCP, currently adequately understood and documented, misses the relevant issue in terms of restoration: modifications to the levee system would only address high-magnitude floods that are rare and very disruptive events that do not restore stream function, nor do they lead to sustainable establishment of riparian vegetation.

	Summary of Key Issues	Discussion
4.	Better hydraulic modeling is required to document levee freeboard deficiencies. "*...We are puzzled how levee deficiencies will be handled in the EIS.*"	Further documentation of levee deficiencies is not relevant in terms of RGCP restoration potential as discussed in the previous point. More detailed modeling incorporating flood attenuation will show that, in fact, levee deficiencies are not as extensive as currently estimated and thus offer a lower potential to associate environmental improvements with flood control measures. In the basis for formulation of the Modified O&M and Flood Control Improvement Alternative it is specified that, *as a work assumption to estimate impacts of potential construction activities,* deficiencies will be addressed by increasing levee height or building additional levees. Results of an ongoing structural integrity evaluation will be required to determine the full extent of the levee rehabilitation program, and to re-assess the overall flood control strategy in the RGCP.
5.	Any proposal to raise/rebuild levees needs better hydraulic modeling and to consider non-structural flood control approaches. "*This is the case whether levee reconstruction is proposed as part of the EIS or postponed to a future date, as suggested at our October 23 meeting.*"	We are in full agreement, as discussed during the October 23, 2001 meeting, that good engineering practices require that a flood control study evaluate both structural and non-structural approaches, and analyze associated risks and potential costs and benefits. Clearly such study can only be conducted in the future, when both the flood containment capacity and structural integrity of the levee system have been fully documented. Regardless of when the flood control study is completed, its findings are not critical for completion of the EIS given the low potential for coupling flood control measures in the RGCP with improvements of riparian ecosystems, as previously discussed in point #4.
6.	The DEIS should address specific channel restoration details, including characteristics of flows needed to sustain the restored system. Evaluation of 2-dimensional flood routing is needed.	Locations of 48 individual sites for potential environmental improvement actions were identified, and actions proposed for each one were quantified as part of the alternatives formulation. Additional mapping was conducted to quantify the extent of potentially flooded areas in response to various controlled floods induced by releases from Caballo Dam. The actual extent of potentially restored riparian areas will be dictated not by premature fine-tuning using more complex modeling of peak floods, but by the success in reaching agreements with water-rights owners to secure water for such releases, and results of small-scale programs documenting where and to what extent riparian ecosystems can be improved, and costs and potential drawbacks of tested methods.
7.	Six items are listed to be addressed in the DEIS to mimic some of the features of a river that existed prior to Elephant Butte Dam: a. Increase in channel width-to-depth ratio; b. Minimize removal of in-channel sand bars; c. Over-bank flooding to promote native vegetation; d. Increased channel sinuosity between levees;	The formulation of alternatives addressed those items as follows: a. That action was incorporated in the vicinity of main arroyos, the most diversified aquatic habitat in the RGCP. b. Sand bars are transient features primarily formed during the low winter flows. Re-shaping of stream banks (shave-downs) was adopted as a more reliable measure for establishing seedlings during the spring high irrigation flows. c. Overbank flooding to promote native vegetation (*i.e.* bank lowering and site preparation) was adopted as the key action for restoration of riparian habitat, and its potential was extensively quantified. This approach represents an effort to restore connectivity of riparian and aquatic systems and has been promoted by a number groups analyzing options for Middle Rio Grande restoration (*e.g.*, Bosque Hydrology Group). We believe that overbank flooding in

	Summary of Key Issues	Discussion
	e. Levee removal to increase channel sinuosity; and f. Maximize in-channel habitat.	portions of the RGCP will have the greatest impact with regard to limited restoration. d. The targeted restoration alternative specifies reopening of all major meanders within the ROW. e. This item reiterates the misconception that current channel configuration is dictated by the position of the levees, not by upstream flow regulation, a condition that pre-dates the RGCP by several decades. f. Diversification of aquatic habitat was identified as a restoration priority and several actions were proposed to reach that goal.
8.	Although some minor channel realignment is contemplated, other alignments of the river should be considered, including sweeping curves evident in pre-1916 maps to maximize overbank flooding.	Use of pre-1916 conditions is an incorrect point of reference. Those conditions were severely modified by upstream flow regulation at Elephant Butte, not by the RGCP construction. Potential environmental improvements are analyzed in the EIS in the context of the RGCP operation. The view that partial restoration can be achieved within the current stream configuration and water availability was adopted in 2001 by the Bosque Hydrology Group as the rehabilitation concept for various reaches of the Middle Rio Grande (http://bhg.fws.gov/ABQcf.htm). The concept of "some minor channel realignment" seems utterly inadequate to characterize the proposal to reopen nearly every major meander in the Rincon Valley that was cut during construction of the RGCP.
9.	It may be inappropriate to consider the 1930s as the reference for restoration since "*...it certainly wasn't a natural situation, it may not have been a desirable situation with respect to native aquatic life, and we have other options today as we seek to reengineer the river once again.*"	The 1930s is the correct reference point because upstream flow regulation remains the key factor controlling stream function, and those were the conditions under which the RGCP was developed to provide flood protection and efficient water deliveries.
10.	We question the proposal to restrict the upper reach. The potential exists below Leasburg Dam to purchase land or easements outside the ROW for flood management and river restoration	Multiple proposed actions extend throughout the entire length of the RGCP, proving riparian habitat connectivity from Percha Dam to American Dam. Water release is the single action restricted to the upper reach due to the physical limitation imposed by the Caballo Dam location. An extensive potential for river restoration has been identified within the ROW where most areas susceptible to periodic flooding and thus capable of supporting riparian vegetation are located. Flood easements outside the ROW do not offer such potential as they are seldom inundated (by definition once in 100 years) and, unlike conservation easements, remain in agricultural production.
11.	Sustainability of stream habitats is predicated upon the ability to function with as little management intervention as possible. It is impossible to determine if proposed changes will require frequent and potentially costly intervention.	Modification of current conditions using potentially costly intervention to achieve partial restoration of riparian habitats in the RGCP is a requirement, not an option. Given that the entire Middle Rio Grande has been managed for decades to function as a water conveyance and delivery system, any restoration initiatives will be sustainable only to the extent that proposed actions are compatible with existing legal constraints, and implemented without conflicting with current water and land uses.

RG-512

Victoria, Carlos

From: Victoria, Carlos [/o=Parsons/ou=Parexch01/cn=Recipients/cn=Carlos Victoria] on behalf of Victoria, Carlos
Sent: Tuesday, July 23, 2002 2:49 PM
To: Doug Echlin (E-mail)
Cc: 'carlosmarin@ibwc.state.gov'; 'sylviawaggoner@ibwc.state.gov'; Wooten, R C; Hinson, James M; 'swec@zianet.com'; 'sulnick@earthlink.net'
Subject: Partial Restoration Criteria for the Canalization Project

Doug,

During yesterday's meeting with the USIBWC Commissioner, representatives from environmental organizations cited the need to evaluate "full restoration" potential as the required staring point to develop alternatives for improvement of environmental conditions in the Canalization Project.

As we mentioned during the meeting, "full restoration" is not a concept embraced by professionals that for over a decade have worked in the Middle Rio Grande rehabilitation efforts. The following two quotes illustrate the fact that partial restoration, as adopted by USIBWC for evaluation in the Canalization Project EIS, is the reasonable and implementable approach.

1. From the Bosque Hydrology Group (BHG), a technical group formed in the summer of 1995 to accomplish the hydrologic and physical goals of the Bosque Biological Management Plan, and to enhance coordination, communication and synthesizing of bio-hydrologic efforts within the Middle Rio Grande. The BHG includes representatives from the following agencies, universities and organizations: U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Bureau of Reclamation, Middle Rio Grande Conservancy District, University of New Mexico, and New Mexico Institute of Mining and Technology.

   "The MRG [Middle Rio Grande] will never return to what it once was. The Bosque Hydrology Group proposes rehabilitation efforts to work within the scaled down river framework. The concept of scaled down 'Mini Rio Grande' was arrived at during discussions of the fall 2000 meeting. It is the consensus of BHG members that the MRG, within the Albuquerque reach, can be rehabilitated within the 'Mini Rio Grande' Framework'. All aspects of the Middle Rio Grande have been reduced in size including: flood-plain width, channel width, peak discharge, and sediment load. Working within the scaled down framework, a new functioning system can be achieved through rehabilitation efforts that will return functioning to the system. Historic widths, sediment loads and peak flows are not needed to return to a functioning system. The functioning of the system can be optimized while working within the scaled down Rio Grande or, if you will, 'Rito Grande'."

   [2001 Draft Technical Memorandum, The Bosque Hydrology Group, Middle Rio Grande Rehabilitation Concepts, http://bhg.fws.gov/ABQcf.htm]

2. From a technical team led by Dr. Clifford S. Crawford, Emeritus/Research Professor of University of New Mexico, a lead expert on Middle Rio Grande restoration and a technical reviewer for the EIS alternatives formulation:

   "... Having studied the [Middle Rio Grande] bosque for many years, we feel that 'restoration' is feasible if applied in the context of its limitations. In our view, returning the bosque to some designated historical state makes little sense. Too much change has occurred to the system for that to be a realistic option. We prefer the more flexible concept of "partial restoration' (Crawford and others 1996b), which advocates seasonal soil wetting at carefully selected riparian locations in order to bring about establishment and/or maintenance of native woody vegetation."

   [C.S. Clifford, L.M. Ellis, D. Shaw and N.E. Umbreit, 1999: Restoration and Monitoring in the Middle Rio Grande Bosque: Current Status of Flood Pulse Related Efforts. USDA Forest Service Proceedings, RMRS-P-7, page 159].

These quotes illustrate how "full restoration" is a well-intentioned but unrealistic concept, superseded for application to the Middle Rio Grande by the partial restoration approach adopted by USIBWC in the formulation of the Target River Restoration Alternative, an alternative based on the following goals: 1) to establish a native woody vegetation corridor by seasonal soil wetting at meticulously selected riparian locations along the Canalization Project; and 2) diversification of aquatic habitats to provide slow-moving waters during the critical stages for fish reproduction, late spring and early summer.

It was also stated during the meeting that a desired ecological condition should be first evaluated without constraints, and latter re-assessed taking into account socioeconomic and political issues. This dissociation between ecological goals and constraints does not reflect current concepts of stream restoration. This is clearly stated in the multi-agency reference document *Stream Corridor Restoration: Principles, Processes and Practices*:

> "Restoration goals... should be an integration of two important groups of factors:
> * Desired future condition (ecological reference condition).
> * Social, political, and economic values."
>
> "In addition to the desired ecological future condition, definition of restoration goals must also include other considerations. These other factors include the important political, social and economic values as well as issues of scale. When these considerations are factored into the analysis, realistic project goals can be identified."
>
> "The identification of realistic goals is a key ingredient for restoration success since it sets the framework for adaptive management within a realistic set of expectations. Unrealistic restoration goals create unrealistic expectations and potential disenchantment among stakeholders when those expectations are unfulfilled."
>
> [*Stream Corridor Restoration: Principles, Processes and Practices,* October 1998, page 5-12. Federal Interagency Stream Restoration Group: Department of Agriculture (ARS, CSREES, FS, NRCS), USEPA, Tennessee Valley Authority, FEMA, Department of Commerce (NOAA/NMFS), Department of Defense (USACE), Department of Housing and Urban Development, and Department of Interior (BLM, USBR, FWS, NPS, USGS)].

I hope this information helps illustrate why a partial restoration approach to be implemented within known socioeconomic and political constraints, as adopted by USIBWC, is considered by lead professionals in academia, various agencies and other organizations as the basis for a successful restoration program .

Best Regards,

Carlos

Carlos Victoria-Rueda, Ph.D.
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8000 Centre Park Drive, Suite 200, Austin, TX 78754
(512) 719-6007

RG-513

Victoria, Carlos

From: Victoria, Carlos [/o=Parsons/ou=Parexch01/cn=Recipients/cn=Carlos Victoria] on behalf of Victoria, Carlos
Sent: Tuesday, July 23, 2002 4:48 PM
To: 'Kevin Bixby'
Cc: 'Doug Echlin (E-mail)'; Wooten, R C; Hinson, James M; 'carlosmarin@ibwc.state.gov'; 'sylviawaggoner@ibwc.state.gov'; 'sulnick@earthlink.net'; 'Kara Gillon'; 'Steve Harris'; 'Jimmy S. O'Brien'; 'Jennifer Atchley'; 'Krista West'; 'Ted Zukoski'
Subject: RE: Partial Restoration Criteria for the Canalization Project

Kevin,

Thanks for the fast reply. As always we look forward to getting your input. Just for your information, including the No Action Alternative in the EIS (the "unbalanced,unrealistic and extreme: maintain the status quo" alternative) is not an option but a formal NEPA requirement for every EIS produced since the Act was issued back in 1969. Its impacts, benefits and drawbacks will be evaluated in the EIS, giving equal weight in the analysis to all alternatives as also required by NEPA.

Carlos

-----Original Message-----
From: Kevin Bixby
Sent: Tuesday, July 23, 2002 3:43 PM
To: Victoria, Carlos
Cc: Doug Echlin (E-mail); Wooten, R C; Hinson, James M; carlosmarin@ibwc.state.gov; sylviawaggoner@ibwc.state.gov; sulnick@earthlink.net; Kara Gillon; Steve Harris; Jimmy S. O'Brien; Jennifer Atchley; Krista West; Ted Zukoski
Subject: Re: Partial Restoration Criteria for the Canalization Project

Carlos,

I think you misunderstood us. Our definition of restoration is absolutely in accordance with the BHG's idea of a scaled-down but still functioning Rio Grande, as well as restoration of as much of the original structural components (eg native plants and animals) as possible. We have never advocated for a return in an absolute sense to a historic condition. Obviously that would be impossible since much of the floodplain is now occupied by Las Cruces, El Paso and Juarez.

With respect to "constraints," the setting of realistic restoration goals is not the same as defining alternatives for NEPA analysis. You have already considered one alternative we consider to be unbalanced, unrealistic and extreme: maintain the status quo. This alternative appears to give all the weight to "social, political and economic values" and none to "desired future condition (ecological reference condition)" yet it was considered viable enough to be carried forward through the analysis process. We are asking that the same be done on the restoration end of the scale. We are puzzled by the resistance to analyzing such an alternative. We are also concerned by your apparent predetermination that such an alternative is "unrealistic" absent any supporting analysis.

Per our discussion yesterday, the Alliance will be submitting a more detailed response to the question of how the approach to the EIS might be improved. We look forward to receiving an electronic copy of the latest revisions to chapters 1 and 2.

Kevin

RG-514

Victoria, Carlos

From: Steve Harris [unclergr@laplaza.org]
Sent: Thursday, July 25, 2002 5:15 PM
To: Victoria, Carlos
Cc: dougechlin@ibwc.state.gov; swec@zianet.org
Subject: Restoration?

Carlos:

Although I was unable to attend Monday's meeting with the commissioner, the Alliance for Rio Grande Heritage and yourself, I have followed the Canalization Project issue you address quite closely, and actually submitted some suggestions for an alternative that seem to have escaped the Canalization DEIS process. I will offer these again to perhaps add an additional viewpoint to the discussion of the adequacy of the Parsons/IBWC restoration alternative.

First, I would reinterate Kevin Bixby's statement of our intent here, which is to restore, to the maximum extent possible, the ecological function of the Rio Grande in the Canalization reach. The Alliance understands the degree of modification to which the river has already been subject and recognizes the needs of the local communities for flood protection. Within this context, "partial" restoration is the only possible goal.

Second, partial restoration must consider the potential for the entire reach and how these potential ecological improvements might link and how they might impact the flood protection goal. Therefore, it is essential to integrate land use data with flood routing, soils and other pertinent data. I do not believe that this sort of holistic approach has been taken to date.

Third, there is a nascent national floodplain policy that seems to have not been very well integrated into IBWC's project planning, one that relies much more heavily than in the past on non-structural flood protection.

Fourth, many constraints are purely conceptual. For example, funding for restoration may be limited. This "fact" need not color IBWC's assessment. Such "facts" can change.

Fifth, how the issue is defined itself constrains our thinking about solutions. Canalization could be viewed as a "potential river" rather than a "flood control project". I believe that this is the source of our present misunderstanding about the proper goals for the project. Starting from the former viewpoint might offer many more restoration opportunities that starting from the latter. Is flooding good, bad or merely inevitable? If the true answer is "inevitable", where could flooding be harness to restore lost processes?

Sixth, I suggest that the river's own processes can promote formation of channels, transportation of sediment, storage of floodwater/attenuation of peak flows and provision of aquatic habitat and regrowth of native vegetative species. How does the project's shape change if we can provide design floods?

Things that could still be done toward a holistic assessment of the project include:

1. Additional assessments-Parsons could utilize GIS overlays to fully integrate flood management and ecosystem restoration objectives. Information which we feel should be obtained and used seeks to answer some of the following:
a. Where is it possible to expand the areal extent of the floodplain to provide temporary storage of
floodwaters, as well as space for habitat improvements?
b. Where are the most flood vulnerable capital improvements located?

Cropland elevations should be surveyed to determine their exposure to events of various magnitudes.
c. Where may it be possible to remove or set back levees? d. Where is it possible for populations, public infrastructure and capital investments to be removed
from, or raised above, the historic floodplains?
e. What is the actual effect of floodway revegetation on the capacity of various channel segments? One assessed variable might be based on the average density of
a mature cottonwood-willow assemblage. The predicted capacity of a vegetated section could be matched with the project's selected target capacity.
f. How many locations are there where opportunities exist for using design events to promote overbank flooding within the levees?
g. Where, by applying desing floods of various magnitudes, might restoration of a diversity of
aquatic habitats (e.g. various shapes, velocities, gradients, depths and bed materials) be
accomplished?
h. What would be required for each arroyo mouth and drain outflow become a restoration site?
i. What opportunities exist to promote the reestablishment of native riparian vegetation between levees
and surrounding private lands (e.g. outside levees)?
j. Which former channels could be reconnected, with a new levee configuration?

2. Consider the Project with certain policy changes-Project restrictions arising from local land use practices are subject to modification, if the agency is willing to network and form partnerships with the irrigation districts and individuals. Assess what further restoration becomes possible with a few new policies, such as:
a. Universal indemnification to protect agriculturalists from the economic effects of greater than design floods; provide incentives.
b. Modernized local land use planning; encourage floodplain zoning.
c. Adoption of national floodplain management policy.
d. Development of partnerships with irrigation, soil and water districts and private landowners, using such incentives as: reducing erosion, raising local water tables and repairing some of the vast environmental damage done to the river over the 65 year life of the project.

3. Goals: I'd urge that the most ambitious possible work plan be developed, to allow full consideration of river restoration/floodplain management in the future of the Canalization Project.

I am convinced that a project goal of maximized ecological restoration balanced with the reasonably assurable security of residents from the most frequently recurring events is highly desirable, eminently possible and would be supported broadly.

*

Steve Harris
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"The fact that water is essential to life lends an ethical dimension to every decision we make about how it is used, managed, and distributed. We need new technologies, to be sure, but we also need a new ethic: All living things must get enough water before some get more than enough."
---Sandra Postel, "Troubled Waters"

RG-515

Victoria, Carlos

From: Victoria, Carlos [/o=Parsons/ou=Parexch01/cn=Recipients/cn=Carlos Victoria] on behalf of Victoria, Carlos
Sent: Wednesday, July 31, 2002 5:51 PM
To: 'Steve Harris'
Cc: 'dougechlin@ibwc.state.gov'; 'swec@zianet.org'; Wooten, R C; Hinson, James M
Subject: RE: Restoration?


Response_to_SWEC.doc

Steve,

Thank you for taking the time to give us your perspective on the potential for partial restoration of the Rio Grande Canalization Project (RGCP). For over one year we have worked with SWEC to define your stated goal of maximizing ecological restoration. I know you have followed the process closely, and planned to attend our October 22, 2001 meeting in El Paso with USIBWC and SWEC during which we presented in detail the restoration alternative reformulation.

During that meeting we addressed most of the issues you listed, and provided multiple materials to SWEC documenting our reformulation approach and supporting the conclusions of our analysis. Those materials included reviews of historical streambed drawings, extensive modeling not only of the 100-year flood but also of large flood pulses, spatial distribution by GIS techniques of potentially floodable areas, and locations of non-urban areas where flood easements could be considered in combination with levee breaching or relocation. From your comments, as well as several raised on July 22, 2002 during the meeting with the United States Commissioner, it appears to me that findings our analysis have not been made available to other organizations that, as you are, have a keen interest in the RGCP restoration.

Let me briefly recap the path we followed to reformulate the Targeted Restoration Alternative. I believe this illustrates that an extensive potential for restoration has been identified, and explains why the notion that flood control actions will play a significant role in the potential RGCP rehabilitation --a notion we wholeheartedly adopted in the early stages of our analysis-- was found to be incorrect.

When we started the analysis process for management alternatives of the RGCP we adopted the premise that restoration alternatives could be combined with non-structural flood control actions to widen the floodplain (levee relocation). It appeared to be a win-win situation that would address both flood control deficiencies and stream restoration, as it has been done in a number of reaches of the Missouri and Mississippi Rivers. The flaw in that analysis, as it later became apparent, is that unlike those rivers, stream configuration and active flood plain in the RGCP is controlled entirely by irrigation flows heavily regulated by upstream reservoirs, not by the large and rare 100-year flood event that the levees are intended to control. The active flood plain, where recurrent floods of lesser magnitude provide more frequent overbank flows, is fully contained within the levee system. Therefore levee relocation, while an option for flood control, does not provide significant restoration opportunities in the RGCP system. In addition to the active floodplain, the regulated low flows are also the controlling factor in the stream channel configuration. This is clearly indicated by the fact that stream bank protection along the RGCP channel has not required substantial placement of riprap since the mid 1960s. These issues have been previously discussed with SWEC and were further discussed in more detail in our July 3, 2002 letter addressed to United States Commissioner Ramirez (attached file).

At this point in the analysis of restoration potential the challenge became the simulation of pulse discharges from Caballo Dam that have a significant potential for overbank flooding. Based on historical maximum recorded daily flows in the order of 7,000 cfs, a theoretical analysis was conducted by modeling that value as well as the 9,000 cfs and 5,000 cfs flows. Floodable areas were then plotted and quantified using GIS techniques. Extensive floodable areas were identified in all simulations, as indicated by tabulated data and graphical results that were provided to SWEC. As a reference for the magnitude

of those flows, the design value for the 100-year flood below Percha Dam is 5,000 cfs, while average flows are in the order of 1,500 cfs during most of the year, and 100-300 cfs during the non-irrigation season. Modeling results indicated that extensive floodable lands, amenable for recurrent overbank flows and development of a riparian corridor, were available within the 1,500 cfs to 5,000 cfs flow range. Those floodable lands are located, almost in their entirety, within the USIBWC right-of-way.

Recurrent overbank flooding, an issue that we did not emphasize in our initial March 2001 analysis, is now the focus of the restoration alternative reformulation. The alternative now considers three overbank flow techniques (increased flows by pulse discharges, lowering of stream banks by terracing, and use of flood irrigation techniques). We have also identified numerous areas along the RGCP where those techniques are applicable to various degrees, limiting the controlled water releases to the Rincon Valley as dictated by the Caballo Dam location (the only storage reservoir in the system).

With regards to specific issues you listed, we have addressed them in previous analyses or during the recently completed reformulation process as follows:

1. Additional assessments. We have conducted multiple GIS-based analysis on overbank flooding to assess potential for restoration of riparian ecosystems. Items a, b and c refer to issues that were evaluated but, as previously discussed, were found to provide little benefit in terms of RGCP restoration: levee setbacks and the expansion of the inactive floodplain (areas not potentially subject to recurrent overbank flooding). Items e, f , h, i and j were all evaluated in detail and the results described in the March 2001 Alternatives Formulation Report. Those items address, respectively, modeling of the floodway following extensive revegetation, identification of sites for over bank flooding within the levees, evaluation of arroyo mouths and drain spillways as enhancement sites, identification of other revegetation sites, and reconnection of meanders. Most of those actions were incorporated in the Targeted Restoration Alternative, and to a lesser extent into the Integrated USIBWC Land Management Alternative. Modeling both the design flow and flood pulses (item g) were conducted as part of the reformulation process.

2. Policy changes/project restrictions. The need to network and form partnerships with the irrigation districts and individuals (introduction and item d) are issues we have identified as key for the success of the restoration alternative and its long-term sustainability. I'm glad that you share that perspective with us. Regarding items a, b and c, they refer to flood control strategies based on management of the 100-year flood, an issue that we de-emphasized in our more recent analysis since expansion of the inactive floodplain provides little opportunity for establishment of native species along the riparian corridor. Those items are significant in the planning of overall flood control strategies, a task that USIBWC conducts as part of its mission and will include findings of the ongoing evaluation of the levees' structural condition.

3. Goals. We share your view of giving full consideration to river restoration/floodplain management within the RGCP taking into account all opportunities, as well as the limitations and constraints dictated by the project mission and rights of other stakeholders.

I hope the above information will help illustrate how most issues listed in your e-mail have already been considered and incorporated to various degrees into the reformulated restoration alternative. Again, thank you for your input. Because we reached the conclusion that holding meetings with individual stakeholders has not been a very effective way to communicate findings of our work, in the future we will explore more reliable ways to achieve this goal.

Best Regards,

Carlos

-----Original Message-----
From: Steve Harris
Sent: Thursday, July 25, 2002 5:15 PM
To: Victoria, Carlos
Cc: dougechlin@ibwc.state.gov; swec@zianet.org
Subject: Restoration?

RG-516

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

AUG 7 - 2002

See Attached Letter Recipients List

The purpose of this letter to thank you for your participation in recent meetings regarding the development of the Rio Grande Canalization Project (Canalization Project) Environmental Impact Statement (EIS), and to thank you for your additional scoping comments about the formulation of alternatives for that document. Your important comments have benefitted the United States Section, International Boundary and Water Commission (USIBWC) and our consultants, Parsons Corporation (Parsons), in furthering the progress of the National Environmental Policy Act (NEPA) process.

As a result of these meetings and correspondence, a partial reformulation of the alternatives has been discussed with Parsons. At this time, we are considering a subsequent report to the March 2001 Alternatives Formulation Report. It is envisioned that this report would provide information that has been received from you and your organizations since the initial report was released over a year ago. We plan to provide material documenting the approach to the reformulation of alternatives and supporting the conclusions of the analysis. Upon completion of the reformulation report, we plan to make an informational copy available to you prior to the release of the draft EIS.

We appreciate your continuing participation in the NEPA process and look forward to your review of the draft Canalization Project EIS when it is made available for public review. If you should have questions please call Mr. Douglas Echlin at (915) 832-4741.

Sincerely,

Douglas Echlin

for Sylvia A. Waggoner
Division Engineer
Environmental Management Division

Attachment:
Letter Recipients

cc w/ attachments:
Dr. R.C. Wooten
Senior Associate
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RG-517

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August 7, 2002

Mr. Doug Echlin, Lead Environmental Specialist
United States Section, International Boundary and Water Commission
4171 N. Mesa, C-310
El Paso, TX 79902-1441

Ref: June 28, 2002 letter from the Elephant Butte Irrigation District (EBID) commenting on the Pre-Draft EIS for the Rio Grande Canalization Project (RGCP)

Dear Doug:

Parsons has reviewed the above referenced letter and would like to clarify some of the stated issues and provide some additional information. More importantly, we would like to point out how a number of suggestions and concerns expressed by EBID during our April 17, 2002 presentation in Las Cruces have been incorporated or addressed in the reformulation of alternatives. We believe their input has been useful to refine practical considerations in the analysis of alternatives, particularly those that include actions whose benefits could be considered purely environmental. We appreciate EBID's effort to provide detailed written comments as well as the valuable input we received from attendees at the April 17, 2002 meeting.

To facilitate the discussion, we present our comments following the same sequence of the EBID's letter: 1) Introduction, 2) Water Rights Issues, 3) Prior Environmental Analysis Required, 4) Mandate to Proceed, and 5) Technical Issues.

1. Introduction

The letter indicates that a review was made of a "pre-draft EIS" when in reality the stated purpose of the meeting was to present changes to the proposed alternatives, not discussion of potential impacts of future operation of the RGCP. Such impacts will be subsequently addressed in the Draft EIS and this document will be available for public review. We mentioned this point during the presentation but we might have not emphasized this point strongly enough. This misunderstanding explains why the EBID letter lists a number of impacts they believe have not been adequately addressed. Several of those impacts are relevant and will be included in the EIS analysis that will be completed following the final reformulation of alternatives. Once the Draft EIS becomes available, all stakeholders will have the opportunity to comment as to whether potential impacts were adequately evaluated.

2. Water Right Issues

Three general issues are listed under this heading. The first issue questions whether there are actual water savings by salt cedar removal. While very high water consumption by this introduced species is a fact fully supported by extensive scientific data, we agree that it would be very difficult to reach a consensus as to the actual potential for reduction in water consumption.

Second, it is questioned whether any saved water could be used in other environmental improvement actions, such as opening of meanders, since all surface water is allocated to the Rio Grande Project. In response to EBID's concern, we have modified the formulation of the proposed action. Initially we presented the action simply as removal of salt cedar to offset water losses by other environmental actions. In the modified alternative we propose a one-to-one replacement program of salt cedar with cottonwoods. Since the latter have a documented lower water consumption, there is always a net water gain in the tree-replacement program (regardless of what that specific value is). For other environmental actions that need additional water, acquisition would be required as pointed out in the EBID letter.

Third, the need for evaluation of socioeconomic impacts is stated. We fully understand this point and for that reason socioeconomic and water use issues are major components of the Draft EIS document in preparation. In fact, our presentation identified water conservation programs and not decommissioning agricultural lands as two key elements in the implementation strategy.

3. Prior Environmental Analysis Required

Three general issues are listed under this heading. First, there is a concern that the three "green" zones and limited tree planting since 1999 represent significant water consumption. In reality the no-mow zones represent limited provisional test plots intended to evaluate effects of additional vegetation growth on the RGCP functions. Under current conditions those zones have a very limited potential for water consumption because they are not irrigated and, given the extended drought, only scattered vegetation growth has occurred to date in the no-mow zones.

The acreage of the no-mow zones, as requested, is as follows: the first zone extends 5 miles from Percha Dam to the Doña Ana County line and ranges in width from 10 to 35 feet. At an average 20-ft width, it covers approximately 24 acres. The second zone corresponds to Seldon Canyon where USIBWC historically has not conducted mowing operations since the agency's jurisdiction is limited to the channel bed and stream banks. The third zone, extending for 5 miles from Shalem Bridge to Picacho Bridge, vegetation is alowed to grow for a width of 35 feet. Regular mowing is maintained in areas adjacent to bridges (400 ft. upstream and downstream from the structure) and access points to the river (100-ft long segments located at 800 ft intervals). The extent of this no-mow zone is approximately 33 acres. In combination, no-mow zones outside Seldon Canyon cover less than 1 percent of the 8,332 acres RGCP right-of-way.

Tree planting since 1999 has been limited to approximately 800 cottonwood poles planted individually at 100-ft intervals, and only a fraction remains alive since they are not irrigated. In combination, and if and when they reach maturity, all plantings would cover less than 5 acres at their typical density under natural conditions.

The second item refers to the need for an environmental evaluation for the no-mow zones. Given their small magnitude, I believe it becomes obvious why actions such as temporary test plots fall under a categorical exclusion.

The third issue is whether "green" zones should be part of the baseline condition (which in NEPA is defined as the current condition). While that scattered vegetation growth currently present in the no-mow zones could be considered an individual action, albeit a very small one, in the EIS analysis those zones are being evaluated as part of the more comprehensive and substantial action of future areas in the floodway with full vegetation growth. This larger action is part of the alternatives under evaluation, and was presented in tabular form in the handout provided to EBID during the April 17, 2002 meeting.

4. Mandate to Proceed

Regarding this point we only want to clarify a few points. First, it's stated that the material provided to EBID has no explanation of USIBWC's mandate or motivation to conduct the EIS. This reflects the previously discussed misconception that this type of information would be part of the brief summary of alternatives presented during the meeting. Those issues are addressed in the first chapter of the Draft EIS (Purpose of and Need for Action) and, as such, will be available for public review along with the rest of the document.

Second, Endangered Species Act (ESA) concerns were indeed an important issue that drove the EIS preparation, and for that reason a significant effort has been made to document the presence of potential habitats as required by NEPA. During the presentation Parsons indicated that findings reached as part of the EIS evaluation and based on information from field surveys do not indicate the presence of endangered species in the RGCP. A formal determination of ESA concerns and issues; however, can only be made by the U.S. Fish and Wildlife Service. That determination is still pending and won't be made until the USFWS reviews the Biological Assessment (documenting findings of the field surveys and actions included in the EIS analysis) and concurs with the BA findings and/or potentially offers a Biological Opinion.

Third, a number of potential impacts are listed and discussed in the letter, including socioeconomic impacts. Those issues will be evaluated as part of the Draft EIS and their analysis will be available for public review and comment.

5. Technical Issues

Issues referring to the levee deficiency evaluation based on the 100-year flood simulation

a. It is stated that the input hydrograph already includes attenuation, a correct statement if attenuation were limited to the reduction of the peak flow due to linear friction along the channel; however, the attenuation associated with 2-dimensional models refers to additional peak reductions due to the spill over the stream banks (and past the levees where applicable), and water retention in the floodway. Not including that "horizontal" attenuation makes HEC-RAS a conservative model that overestimates the risk for flood potential; this is a safety factor that makes HEC-RAS the tool of choice for flood evaluation by U.S. Army Corps of Engineers (USACE), FEMA and other planning agencies.

b. Running specific floods through the hydraulic model as suggested in the letter is a calibration exercise, not a verification of USACE findings with regard to levee deficiencies as done by Parsons. The model was developed to calculate water elevation at the levees, or above them, for the 100-year flood; that information cannot be verified nor calibrated from simulation of a much smaller flood that, as stated in the EBID letter, remained largely in the channel.

c. The potential for increased channel obstruction from riparian vegetation debris is a valid EBID concern that will be included in the EIS analysis. At the same time, the offsetting effect of stream bank stabilization by riparian vegetation will also be evaluated. As for the hydraulic representation of diversion structures, siphons and bridges, each one is represented by a set of individual cross-sections that were incorporated by USACE in the original formulation of the model.

d. In the handout provided during the meeting the bullet "Vegetation in the floodway does not significantly reduce containment capacity" refers to modeling results indicating that, relative to current potential deficiencies in containment capacity of the levee system, vegetation

growth would not significantly increase those deficiencies. While potential deficiencies for containment of the 100-year flood under current conditions would extend over 83 miles of levees, the simulated vegetation growth would add 0.7 miles of levees with over-topping potential, and 2.4 miles with a freeboard of less than 1 foot (Tables 8.3 and 8.4 of the Project Functionality Evaluation Section of the Alternatives Formulation Report).

Issues referring to proposed water conservation measures

a. A case is presented in the letter that the example provided of lining irrigation canals does not constitute true water conservation because groundwater recharge is part of the overall hydraulic system. While irrigation districts typically consider that action as a water saving measure, we agree with EBID's view; based on recommendations of meeting attendees in the reformulated alternatives we have limited the concept of true water conservation to measures that reduce water losses to the atmosphere. Typically that reduction in evaporative losses can be achieved with more efficient but expensive on-farm irrigation systems.

b. We agree with the statement that water required for many restoration activities needs to be obtained from the water rights owners. Such acquisition could be directly from the agricultural community, but this approach could lead to decommissioning of agricultural lands. For this reason we propose the idea of obtaining water through funding of water conservation measures that would not only retain agricultural lands in production but also benefit farmers by making available more efficient irrigation systems that would be funded by external sources.

The EBID letter concludes indicating which alternative is acceptable from their perspective. However, as acknowledged in the same paragraph, such conclusion can only be reached once the evaluation of impacts is completed. Again, we appreciate receiving EBID's input, both from attendees to the April 17, 2002 meeting and in the June 28, 2002 letter, and we believe it will be helpful both in completing the reformulation of alternatives and the analysis of potential impacts.

Please give me a call, or Dr. Wooten, at 512-719-6000 if you have any questions or would like to discuss any of the above issues in more detail.

Best Regards,

Carlos Victoria-Rueda, Ph.D
Project Manager

xc. Ms. Sylvia Waggoner, USIBWC
Dr. R.C. Wooten, Parsons
Mr. James Hinson, Parsons

RG-518

United States Department of the Interior

BUREAU OF RECLAMATION
Albuquerque Area Office
505 Marquette N.W. Suite 1313
Albuquerque, New Mexico 87102-2162

IN REPLY REFER TO:

ALB-154
ENV- 6.00

AUG 13 2002

Dr. Carlos Victoria-Rueda, Ph.D.
Parsons Engineering Science, Inc.
901 NE Loop, Suite 512
San Antonio, TX 78209

Subject: Draft Chapters 1 and 2, Environmental Impacts Statement (EIS) for U.S. International Boundary and Water Commission (IBWC) Rio Grande Canalization Project (Canalization Project)

Dear Dr. Victoria-Rueda:

This responds to your request for review of the draft Chapters 1 and 2 of the subject Draft EIS for the IBWC Canalization Project. The Bureau of Reclamation (Reclamation) is participating as a cooperating agency pursuant to the National Environmental Policy Act (NEPA).

Please see the enclosed comments that were informally provided to you and Mr. Doug Echlin of the IBWC during a conference call with Mr. Art Coykendall of my office on June 28, 2002. We appreciate the opportunity to provide comments to the draft document. If you have any questions, please contact Mr. Coykendall at (505) 248-5351.

Sincerely,

Lori Robertson
Division Manager
Environment and Lands

Enclosure (1)

cc: Mr. Doug Echlin (w/o enclosure)
Environmental Protection Specialist
US Section International Boundary
and Water Commission
The Commons, Building C, Suite 310
4171 North Mesa Street
El Paso, TX 79902

Comments on Draft Chapters 1 and 2 of the Draft EIS for IBWC's Canalization Project

On page 1-3, under Section 1.1.1 Rio Grande Canalization Project, the last paragraph in the section describes Reclamation's Rio Grande Project. The text in the last paragraph should be replaced with the following:

"In order to solve conflicts between New Mexico and Texas and the United States and the Republic of Mexico, in 1905 and 1906, Congress passed legislation authorizing the Bureau of Reclamation (Reclamation) to build the Rio Grande Project to store water in New Mexico for delivery to lands in New Mexico, Texas, and Mexico. Reclamation operates the Rio Grande Project, which is located from Elephant Butte Reservoir to Ft. Quitman, Texas. To make these water deliveries, Reclamation built dams, canals, and other facilities and entered into contracts to distribute the water to the Project's water users. These federal facilities include Elephant Butte Dam and Reservoir, Caballo Dam and Reservoir, and diversion dams at Percha, Leasburg, Mesilla, and Riverside.

The Rio Grande Project is integral to implementing the Rio Grande Compact between the states of Colorado, New Mexico, and Texas. The compact was ratified by the states and approved by Congress in 1939. In addition to the waters of the Rio Grande in storage at Elephant Butte and Caballo Reservoirs, the Project water supply consists of all return flows and accretions (including tributary groundwater) to the river downstream of Elephant Butte Reservoir. Water released from storage in Elephant Butte Reservoir is combined with Project return flows and other inflows to the Rio Grande making more water available for deliveries to Project water users. Because of reuse of water released from storage and other inflows to the Rio Grande, there is, under a full allocation, about 930,000 acre-feet of water delivered to the diversion points on the river. This amount includes up to 790,000 acre-feet of water released from Project storage. The 930,000 acre-feet includes 60,000 acre-feet of diversions for Mexico under terms of the 1906 treaty."

On page 1-6, Section 1.1.6 Rio Grande Canalization Project River Management Plan, there is a reference to the use of an "adaptive management strategy" to provide a flexible management approach for the Canalization Project and any associated environmental mitigation or enhancement. Reclamation is also proposing the use of an adaptive management approach in its Rio Grande and Low Flow Conveyance Channel Modifications Draft EIS dated September 2000. Enclosed is a copy of our proposed Adaptive Management Plan for your review and consideration as it may relate to your draft EIS (See enclosed).

On page 1-10, under Section 1.4 Related Projects and Studies, there is a subheading entitled Elephant Butte and Caballo Dams and another subheading entitled Diversion Dams. We recommend combining the two subheadings into one entitled Rio Grande Project. In the first paragraph, we also recommend modifying the first sentence to read as follows, "Reclamation operates and maintains Elephant Butte and Caballo Dams, which are located in Sierra County, New Mexico." In the second paragraph, we recommend adding the following sentence after the first sentence as follows, "The Riverside Diversion Dam (approximately 15 miles southeast of El Paso) was part of the original Rio Grande Project, but failed during a large flood event in 1987."

On page 1-11, under the subheading Upper Rio Grande Basin Water Operations, the subheading should be modified to read "Upper Rio Grande Water Operations Review." The second sentence beginning with "Timing of flows..." should be deleted and replaced with the following, "Only flood control operations are being addressed in the Review for Elephant Butte and Caballo Dams."

On page 1-13, under Table 1.2 Potentially Required Federal Permits, Licenses or Entitlements, the description for Reclamation's approval of water use conversion and third-party contracts should be modified to read as follows, "The USBR approves project-related changes in operating procedures for the delivery of water pursuant to the 1920 Sale of Water for Miscellaneous Purposes Act in coordination with the appropriate irrigation district."

On page 2-1, Chapter 2 Description of Alternatives, should be limited to a description of the alternatives only. To focus the reader to the alternatives and to overall shorten Chapter 2, it is recommended that other related issues such as 2.1 Alternatives Formulation, Section 2.1.1 Implementation Constraints and Implementation Issues, and Section 2.1.2 Alternatives Formulation Process be moved to Chapter 1.

On page 2-2, under Hydrologic Constraints, the third sentence in the paragraph ending with, "... independently of the USIBWC" should be modified to read, " in cooperation with the USIBWC."

On page 2-2, under Legal Constraints, we recommend adding a sentence at the end of the paragraph to read, "In addition, Reclamation would need to approve any third-party water conversion contracts pursuant to the 1920 Sale of Water for Miscellaneous Purposes Act."

On page 2-4, under Need for Cooperative Agreements, we recommend adding a sentence at the end of the paragraph to read, "For example, Reclamation owns lands at Percha, Leasburg, and Mesilla diversion dams."

On page 2-20, Figure 2.3 River Characterization by Management Unit in Terms of Levee Deficiencies and us IBWC Land Maintenance, there is graphical representation of the right-of-way maintenance performed by IBWC. In the area of Leasburg Dam, the graph shows mowing as occurring below the dam. Reclamation owns land around Leasburg Dam and leases those lands for recreation management to New Mexico State Parks Department. To our knowledge mowing does not occur along the river at Leasburg State Park.

On page 2-26, under Terrestrial Habitat Enhancements, there is a brief description of potential habitat enhancement. We recommend providing additional information regarding current cattle grazing and how future management would be conducted to promote habitat enhancement.

RG-519

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

SEP 4 - 2002

Mr. Gary Arnold
President
Board of Directors
Elephant Butte Irrigation District
P.O. Drawer 1509
Las Cruces, New Mexico 88004-1509

Dear Mr. Arnold:

This letter responds to your June 28, 2002 letter providing your comments following the presentation representatives of Parsons Corporation and I made to you and the Board of Directors on April 17, 2002 regarding the development of the Rio Grande Canalization Project (Canalization Project) Environmental Impact Statement (EIS). I sent a copy of your letter to Parsons to ensure that your concerns and suggestions are addressed in the draft environmental impact statement presently being developed.

In response to my providing Parsons a copy of your letter, I recently received a letter from Parsons Project Manager Dr. Carlos Victoria (copy attached for your use and information). In his letter, Dr. Victoria discusses how many issues and suggestions you and your board members made have been incorporated or are addressed in the reformulation of the alternatives being analyzed in the EIS. Your valuable input has helped to refine practical considerations in the alternatives analysis.

Thank you again for meeting with us and for your additional comments about the formulation of alternatives for the EIS. We appreciate your continuing interest in the development of the Canalization Project EIS, and if you should have questions please call me at (915) 832-4741.

Sincerely,

Douglas Echlin
Environmental Protection Specialist

Attachment:
August 7, 2002 Letter from Dr. Carlos Victoria-Rueda, Parsons Corporation

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902
(915) 832-4100 • (FAX) (915) 832-4190

RG-520

THE ALLIANCE FOR THE RIO GRANDE HERITAGE

Commissioner Carlos Ramirez
International Boundary and Water Commission, U.S. Section
4171 North Mesa, C-310
El Paso, Texas 79902

9-038

September 25, 2002

Dear Commissioner Ramirez:

Thank you for meeting with us on July 22, 2002, to discuss the Canalization Project EIS.

At that meeting, the Alliance agreed to prepare a written, point-by-point response to a letter sent by Carlos Victoria-Rueda, Project Manager for Parsons, on July 3, 2002. We believe this response will be crucial to achieving an acceptable restoration alternative, and are therefore using the time necessary to make it complete. Please expect our response to Dr. Victoria-Rueda's points by October 11, 2002.

Because there seemed to be some confusion at the July meeting about the relationship between the memorandum of understanding ("MOU") signed on March 22, 1999 and the EIS currently under development, we are writing this letter to reiterate our understanding of IBWC's legal responsibility in this project, and our concerns with regard to the legal adequacy of the work done to date.

We offer these comments in the spirit of a constructive dialogue. We are confident that with further discussion and cooperation, a viable restoration alternative can be reached.

1. The EIS does not honor the MOU

In our opinion, the work to date on the EIS does not honor the legally binding MOU signed by IBWC on March 22, 1999. The MOU clearly defines the scope of analysis to be undertaken:

"The scope of the EIS will include analysis of available flood protection measures and alternatives to current management, including watershed-oriented and non-structural alternatives, and including collaborative measures with other agencies and landowners, to determine to what extent project management can support restoration of native riparian and aquatic habitats, as well as the restoration of natural fluvial processes such as channel meanders and overbank flooding." MOU Sec. I.B.

To date, adequate consideration of nonstructural alternatives to flood protection, accurate flood modeling, watershed efforts, and cooperation with other agencies has not been included in the draft EIS. The absence of such violates the mandates of the National

Environmental Policy Act (NEPA), 42 U.S.C. sections 4321 et seq.; also see 40 C.F.R. section 1500.1 (c) "NEPA's purpose is to...help public officials make decisions that are based on understanding environmental consequences, and *take actions that protect, restore and enhance the environment*". (emphasis added)

2. Proposed Action section is unclear

The proposed action section of the EIS needs clarification. In the documents we have seen, it is unclear whether the action being proposed is a river management plan, a plan for raising levees, a restoration plan, or something else. We understand that a preliminary river management plan has been developed for internal review, but we are unclear how this plan relates to the EIS, MOU and NEPA.

NEPA regulations require IBWC to "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action." 40 C.F.R. § 1502.13. According to the April 2002 draft EIS (chapters 1 and 2), "[t]he USIBWC proposes to implement expanded ecosystem enhancing river management strategies and alternatives for its Canalization Project operation and maintenance activities while continuing to deliver water and provide flood control...The river management strategies and alternatives being considered include actions such as in-stream structures and other measures to improve riparian wildlife habitat, and the use of watershed-oriented and non-structural operational practices that support restoration of riparian and aquatic habitats as well as natural fluvial processes" (1-7).

While describing the proposal as one to restore native habitat conditions in the Project, in concordance with the MOU, "alternatives also include construction activities such as raising and strengthening existing levees, levee setback and levee removal, widening or armoring the channel with riprap, and installing grade control structures" (1-7). Adding further confusion is the fact the scoping notice published for this EIS (1-7) requested information regarding the "impacts of a River Management Plan by the USIBWC on the existing Rio Grande Canalization Project." 64 Fed. Reg. 44752 (Aug. 17, 1999). Here, the IBWC proposed construction activities similar to those above, as well as "the environmental effects of a long-range maintenance plan that will be developed." Id. (emphasis added). This kind of analysis is confusing to the point of violating the "proposed action" standard. Since the purpose of the EIS dictates the range of alternatives that are developed and analyzed, we believe it is imperative to clarify this section.

3. All reasonable alternatives are not being analyzed

We do not believe that all reasonable alternatives have been considered in the EIS. For instance, none of the current alternatives gives adequate consideration to working with other agencies and private landowners to minimize flood risks or to achieve ecosystem restoration. Similarly, "decommissioning" of the project was dismissed without serious analysis, even though such analysis would be very useful in defining the limits of ecosystem restoration in the context of IBWC's mandates to deliver water and provide flood protection. As already mentioned, nonstructural alternatives to providing flood protection were essentially dismissed after only cursory consideration.

By law, IBWC is required to analyze all reasonable alternatives including those outside IBWC's jurisdiction. 40 C.F.R. § 1502.14. CEQ regulations call on IBWC to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated...[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits,...*[i]nclude reasonable alternatives not within the jurisdiction of the lead agency*,...[i]nclude the alternative of no action,... and "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." Id. § 1502.14 (emphasis added).

In our view, the 1999 MOU requires, as a *starting* point for the development of alternatives, a comprehensive analysis leading to an in-depth understanding of the parameters of ecosystem restoration for the reach of the Rio Grande included within the Canalization Project, and the activities needed to achieve them. These activities include: an analysis of the habitat requirements of native aquatic fauna, increased channel width-to-depth ratio, increased river plan sinuosity, higher flows to achieve overbank discharge, reconstruction of channel bends, bank lowering, and revegetation. These activities are key to enhancing the river floodplain hydrologic connectivity that was lost when the river was channelized, and to restoring biological structure to the ecosystem. We do not believe these issues have been addressed in sufficient detail in any of the alternatives we have seen to date.

Unless these issues are addressed the EIS will violate NEPA's requirement that the document represent a broad range of management strategies. As the CEQ states, "the emphasis is on what is "reasonable" *rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative*. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 46 Fed. Reg. 18026 (March 23, 1981) (emphasis added). Also see, Foundation for North American Wild Sheep v. U.S. Dept of Agriculture 681 F2d 1172, 1177 (9th Cir. 1982) which requires that the environmental criteria in the MOU be elevated to the same level as other, more traditional factors.

Only when the IBWC has explicitly defined its proposed action, its flood control authorities and mandates (see MOU Sec. I.B), and the parameters for and methods to ecosystem restoration can the agency examine a full range of alternatives.

4. Use of flawed model prevents adequate analysis of environmental effects

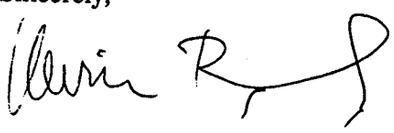
The environmental consequences section of the EIS "forms the scientific and analytic basis" for the comparison of alternatives. Id. § 1502.16. See 40 C.F.R. § 1502.14 (EIS will "present the environmental impacts of the proposal and the alternatives in comparative form"). This section discusses the direct and indirect effects of the alternatives, the significance of the environmental effects, and the means to mitigate adverse impacts. Id. Direct effects are caused by the action and occur at the same time and place, id. § 1508.8, and indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may

include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." Id.

We do not believe either the direct or indirect effects can be properly analyzed under the current hydraulic modeling used in formulation of alternatives. The current modeling does not include accurate understanding of flood movement through the system, flood risk, or existing deficiencies in the levee system. Clearly, under both the dictates of NEPA and the MOU, better hydraulic modeling with more realistic flood attenuation is required to determine if any levee freeboard deficiencies will actually exist. Our current understanding is that there are no plans for additional hydraulic modeling as part of the EIS process. We believe that absent additional modeling the DEIS will violate both NEPA and the MOU.

Thank you for taking these comments under consideration. As always, we stand ready to help development a viable restoration alternative for operation and maintenance of the Canalization Project that meets the legal requirements of NEPA and the MOU. Please feel free to contact me or have your staff contact me if you would like to discuss this matter further.

Sincerely,



Kevin Bixby
Executive Director, Southwest Environmental Center
For the Alliance for the Rio Grande Heritage

CC: Doug Echlin

RG-521

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

DEC 5 - 2002

Mr. Kevin Bixby
Executive Director
Southwest Environmental Center
For the Alliance for the Rio Grande Heritage
275 North Downtown Mall
Las Cruces, New Mexico 88001

Dear Mr. Bixby:

Thank you for your comments dated September 25, 2002 concerning the preliminary draft version of Chapters 1 and 2 of the Environmental Impact Statement (EIS) for Management Alternatives of the Rio Grande Canalization Project. I apologize for the delay in responding to your letter. Initially your letter was given to Legal for comments on your concerns. Legal's analysis required input from us, our acquisitions office, and from the contractor, Parsons Corporation, Inc. At this juncture we are awaiting resolution of several contracting issues.

As the April 5, 2002 letter accompanying this preliminary draft version reflects, this is a working document that was sent to regulatory agencies, including the United States Bureau of Reclamation, and environmental organizations to provide feedback to the Parsons Project Manager preparing the EIS. The draft EIS has not yet been completed nor released to the public. Parsons most likely, by this time, has revised this preliminary draft of the first two chapters further as a result of subsequent meetings and correspondence with irrigation districts, environmentalists, farmers and other stakeholders. The environmental effects section of the draft EIS, of course, has not yet been released to stakeholders. That will come with the release of the completed draft EIS for public review and comment. Your comments have been forwarded to Parsons to ensure they are considered in the EIS.

We anticipate the EIS to be made final after the Alternatives Reformulation Report has been completed. We are currently working with Parsons to prepare the reformulation report to provide the many stakeholders that commented on the development of the alternatives an update of the Rio Grande Canalization Project alternatives that will be carried forward into the EIS analysis. The completion of the EIS is dependent upon the completion of the reformulation report.

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902
(915) 832-4100 • (FAX) (915) 832-4190

Thank you again. If you still have questions, please call Douglas Echlin at (915) 832-4741.

Sincerely,

Sylvia A. Waggoner

Sylvia A. Waggoner
Division Engineer
Environmental Management Division

cc:

Dr. R.C. Wooten, Jr.
Principal
Parsons Corporation, Inc.
800 Centre Park Drive
Austin, Texas 78754

RG-522

DEC 9 - 2002

Ms. Rebecca B. Miller
Rio Grande Citizens Forum Board Member
P.O. Box 507
Anthony, New Mexico 88021

Dear Ms. Miller:

This letter follows up our meeting with you on December 5, 2002 in which you requested that we provide you with an update of the status of the Rio Grande Canalization Project (Canalization Project) environmental impact statement (EIS) development. As we explained in the meeting, the United States Section, International Boundary and Water Commission (USIBWC), began in the mid-1990s developing a scope of work to revisit the existing environmental document for operation and maintenance of the Canalization Project in accordance with federal guidelines to keep such documents current. At the same time as a consultant was being contracted to develop the EIS, the USIBWC received notice from the environmental community that we were not in compliance with federal laws to protect endangered species. To settle the threatened lawsuit out of court, the USIBWC agreed to do that which we had already embarked on, that is, develop a new EIS for our management of the Canalization Project.

One of the first documents prepared by Parsons Corporation for the EIS was the Alternatives Formulation Report developed from information obtained from public scoping meeting comments, technical workshops input, and field studies information. Each alternative balanced the need for accomplishing the USIBWC's flood control mission and United States treaty requirements with improving the environmental quality of the river. As a result of additional meetings and stakeholders' correspondence subsequent to the release of the report, the USIBWC requested Parsons to prepare a reformulation report that would provide information that has been received from the stakeholders since the earlier formulation report was released over a year ago. Unfortunately, the USIBWC is confronted with budget limitations that can only be rectified by Congressional action. Once a budget is passed, we plan to provide in the reformulation report material that documents the approach to the reformulation of alternatives and supporting conclusions of the analysis.

You also asked about the source of water to support the project. As planned for the regional sustainable water project, the Canalization Project's water supply would come from acquiring rights to water, and through forbearance agreements, water conservation, and water banking. Acquiring rights to water associated with the retirement of selected farmlands from irrigated agriculture would occur through property purchases and other methods. Water also would be acquired by leasing, through forbearance agreements, all or a portion of water rights from interested parties. Projects that reduce water loss in the agricultural distribution system would achieve water savings. Lastly, water also may be obtained from a water bank set up using long-term agreements.

Transferring water from agricultural to project use through conversion of Rio Grande Project water uses is necessary to successfully implement the enhancements proposed for the Canalization Project. Conversion of some water use is allowed under the Rio Grande Project as long as the converter (in this case the USIBWC) has the agreement of the landowner plus either the Elephant Butte Irrigation District in New Mexico or the El Paso County Water Improvement District No. 1 in Texas, and the agreement of the United States Bureau of Reclamation, that is responsible for the administration of Rio Grande Project water.

Until the reformulation report is completed, the EIS cannot be completed and released to the public for review and comment. Once the draft EIS is released, comments would be requested from the public. The final EIS would be completed based on comments received on the draft. The last step in the National Environmental Policy Act process is the Record of Decision (ROD) that presents the plan of action. Not until the ROD is issued could the project be implemented, and that is when the earlier mentioned agreements for project water would be pursued as well as required permitting.

Ongoing work by the USIBWC within the Canalization Project which directly benefits the agricultural community is the erosion protection work for the Hatch and Rincon Siphons. This rehabilitation work is designed to eliminate scouring immediately downstream of those structures. The work involves placing two sheet pile cutoff walls at the toe of each drop downstream of the structures and placement of rock riprap between the two sheet pile walls. The first phase of the project, included the sheet pile walls, has been completed for the Hatch Siphon and is currently being performed on the Rincon Siphon. The second phase, includes placement of rock riprap and is scheduled during the 2003-2004 non-irrigation season. In addition, the USIBWC is currently investigating the rehabilitation of the Rio Grande support piers of the Picacho Flume. This work is also scheduled during the following non-irrigation season. The USIBWC has also initiated the first phase of the levee structure evaluation by performing airborne geophysical studies along the project levees. The results of this work will determine the structural stability of the levees and provide recommendations for their rehabilitation.

Finally, I would like to reiterate that the USIBWC primary authorization in the Canalization Project is to properly convey water for delivery to US and Mexico and to provide flood protection to urban and suburban land located along the Project.

We look forward to receiving your comments on the draft EIS when it is released for public scrutiny, and thank you for your continued interest in the development of the Canalization Project EIS. If you should have questions please call Mr. Douglas Echlin at 915/832-4741.

Sincerely,

Carlos Marin
Deputy Commissioner

cc: R.C. Wooten, Senior Associate, Parsons Corporation, Austin
bcc: Commissioner Ramirez Marin Little Peace Waggoner Echlin

DE:CB::CM:de
C:\Documents and Settings\USER\Local Settings\Temp\02340001.wpd
December 6, 2002

Dr. R.C. Wooten
Senior Associate
Parsons Engineering Science
8000 Centre Park Drive, Suite 200
Austin, Texas 78754